



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:38 AM UTC

PDB ID : 6AKG / pdb_00006akg
Title : Crystal structure of mouse claudin-3 P134G mutant in complex with C-terminal fragment of Clostridium perfringens enterotoxin
Authors : Nakamura, S.; Irie, K.; Fujiyoshi, Y.
Deposited on : 2018-08-31
Resolution : 4.30 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

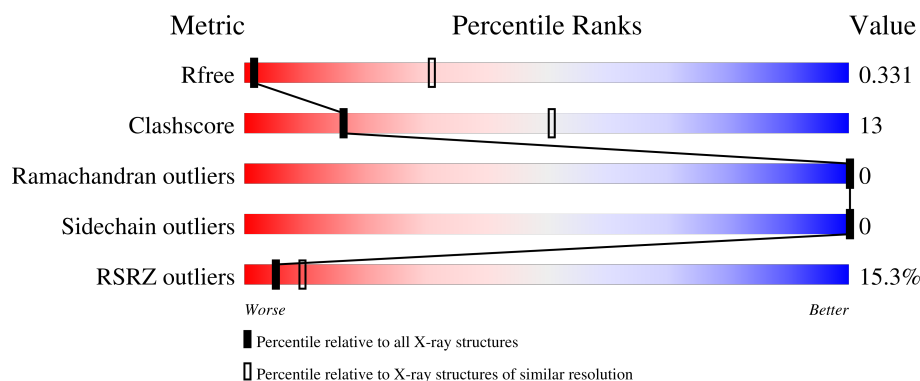
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.30 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	1052 (4.70-3.90)
Clashscore	190562	1097 (4.70-3.90)
Ramachandran outliers	187476	1001 (4.70-3.90)
Sidechain outliers	187428	1007 (4.72-3.88)
RSRZ outliers	180081	1049 (4.70-3.90)

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	190	18% 65% 32% ..
1	C	190	11% 76% 19% ..
2	B	119	15% 73% 25% .
2	D	119	16% 83% 14% ..

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 4482 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 Claudin-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	184	Total	C	N	O	S	0	0	0
			1323	862	216	233	12			
1	C	184	Total	C	N	O	S	0	0	0
			1330	866	217	235	12			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	GLY	-	see sequence details	UNP Q9Z0G9
A	-5	HIS	-	see sequence details	UNP Q9Z0G9
A	-4	MET	-	see sequence details	UNP Q9Z0G9
A	-3	ALA	-	see sequence details	UNP Q9Z0G9
A	-2	SER	-	see sequence details	UNP Q9Z0G9
A	-1	GLY	-	see sequence details	UNP Q9Z0G9
A	0	SER	-	see sequence details	UNP Q9Z0G9
A	103	ALA	CYS	engineered mutation	UNP Q9Z0G9
A	106	ALA	CYS	engineered mutation	UNP Q9Z0G9
A	134	GLY	PRO	engineered mutation	UNP Q9Z0G9
A	181	ALA	CYS	engineered mutation	UNP Q9Z0G9
A	182	ALA	CYS	engineered mutation	UNP Q9Z0G9
C	-6	GLY	-	see sequence details	UNP Q9Z0G9
C	-5	HIS	-	see sequence details	UNP Q9Z0G9
C	-4	MET	-	see sequence details	UNP Q9Z0G9
C	-3	ALA	-	see sequence details	UNP Q9Z0G9
C	-2	SER	-	see sequence details	UNP Q9Z0G9
C	-1	GLY	-	see sequence details	UNP Q9Z0G9
C	0	SER	-	see sequence details	UNP Q9Z0G9
C	103	ALA	CYS	engineered mutation	UNP Q9Z0G9
C	106	ALA	CYS	engineered mutation	UNP Q9Z0G9
C	134	GLY	PRO	engineered mutation	UNP Q9Z0G9
C	181	ALA	CYS	engineered mutation	UNP Q9Z0G9
C	182	ALA	CYS	engineered mutation	UNP Q9Z0G9

- Molecule 2 is a protein called Heat-labile enterotoxin B chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	117	Total	C	N	O	S	0	0	0
			919	588	152	178	1			
2	D	117	Total	C	N	O	S	0	0	0
			910	584	149	176	1			

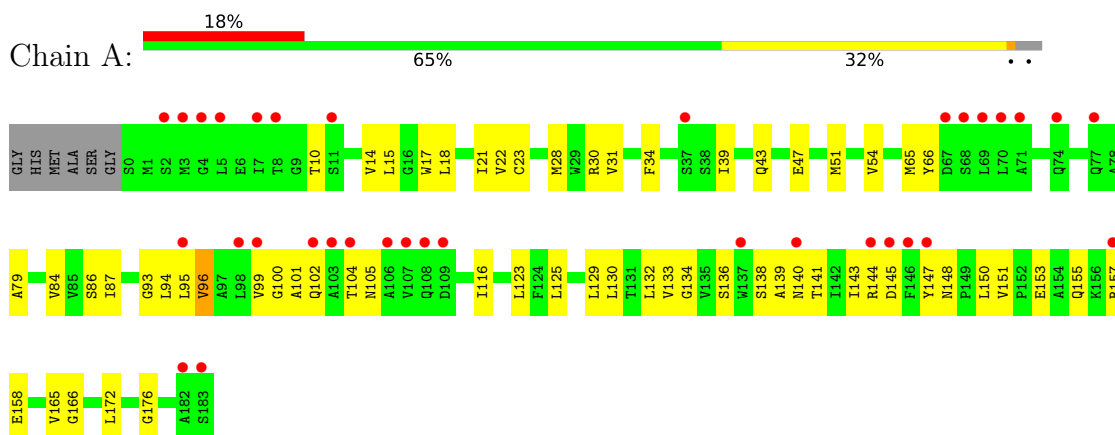
There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	201	GLY	-	see sequence details	UNP P01558
B	202	SER	-	see sequence details	UNP P01558
B	313	ALA	SER	engineered mutation	UNP P01558
D	201	GLY	-	see sequence details	UNP P01558
D	202	SER	-	see sequence details	UNP P01558
D	313	ALA	SER	engineered mutation	UNP P01558

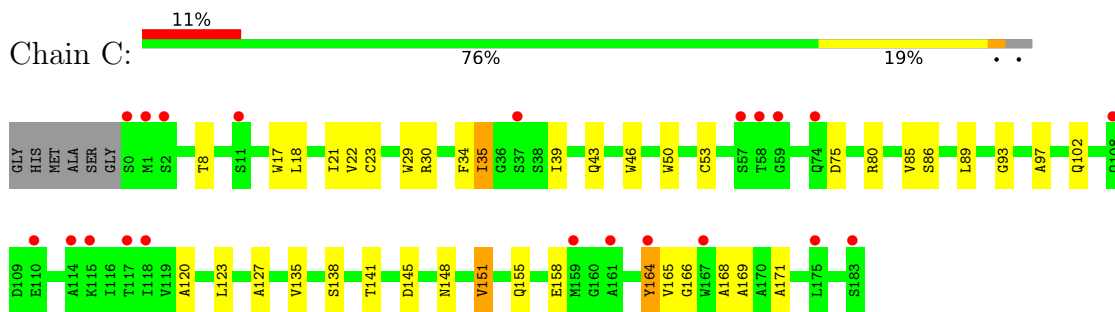
3 Residue-property plots [i](#)

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.

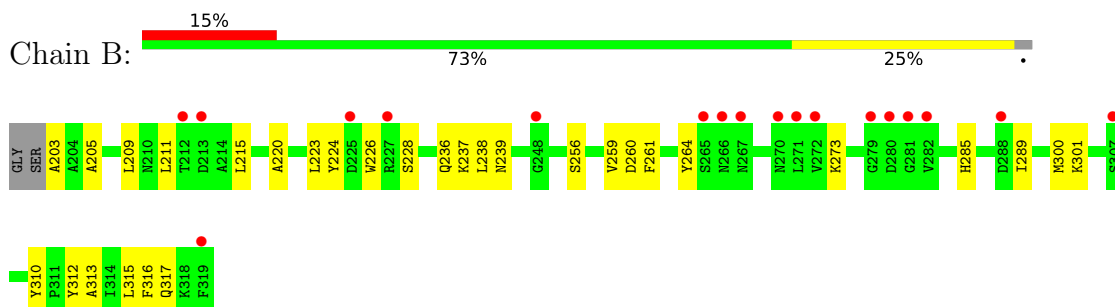
• Molecule 1: Claudin-3



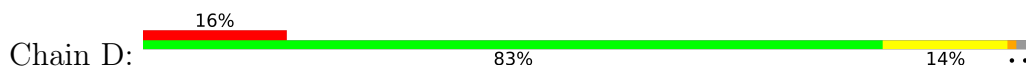
• Molecule 1: Claudin-3

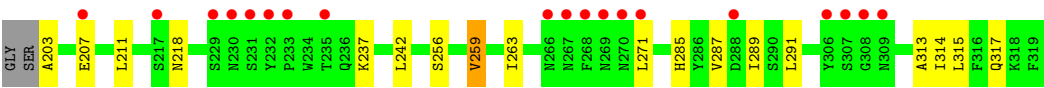


• Molecule 2: Heat-labile enterotoxin B chain



• Molecule 2: Heat-labile enterotoxin B chain





4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	91.71Å 68.21Å 107.88Å 90.00° 98.70° 90.00°	Depositor
Resolution (Å)	49.34 – 4.30 49.34 – 4.30	Depositor EDS
% Data completeness (in resolution range)	88.9 (49.34-4.30) 88.9 (49.34-4.30)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.23 (at 4.29Å)	Xtriage
Refinement program	REFMAC 5, PHENIX 1.13_2998	Depositor
R, R_{free}	0.283 , 0.328 0.290 , 0.331	Depositor DCC
R_{free} test set	413 reflections (4.48%)	wwPDB-VP
Wilson B-factor (Å ²)	214.7	Xtriage
Anisotropy	0.258	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 248.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.43$, $\langle L^2 \rangle = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.85	EDS
Total number of atoms	4482	wwPDB-VP
Average B, all atoms (Å ²)	271.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.84% 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	1.00	0/1345	1.22	6/1840 (0.3%)
1	C	0.94	1/1352 (0.1%)	1.19	5/1848 (0.3%)
2	B	1.13	0/940	1.11	3/1281 (0.2%)
2	D	0.92	0/931	1.04	5/1270 (0.4%)
All	All	0.99	1/4568 (0.0%)	1.15	19/6239 (0.3%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	102	GLN	CA-C	5.08	1.59	1.52

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	8	THR	N-CA-C	6.73	118.50	111.03
1	C	151	VAL	CA-C-N	6.38	126.56	120.31
1	C	151	VAL	C-N-CA	6.38	126.56	120.31
1	A	153	GLU	N-CA-C	6.11	118.44	111.11
1	C	35	ILE	CB-CA-C	-6.04	103.40	111.80
2	D	285	HIS	N-CA-C	6.00	118.25	108.76
1	A	144	ARG	N-CA-C	5.86	118.42	111.33
2	D	207	GLU	N-CA-C	5.74	117.48	107.49
2	D	218	ASN	CA-C-N	5.74	127.01	119.84
2	D	218	ASN	C-N-CA	5.74	127.01	119.84
2	B	285	HIS	N-CA-C	5.65	118.67	109.06
1	A	22	VAL	N-CA-C	5.63	115.82	110.53
2	B	261	PHE	N-CA-C	5.54	117.21	108.96
2	D	259	VAL	N-CA-C	5.51	116.33	107.73
1	A	96	VAL	N-CA-C	5.51	116.24	110.62
1	A	147	TYR	N-CA-C	5.36	118.04	111.82
2	B	289	ILE	N-CA-C	5.34	115.67	107.77
1	A	99	VAL	N-CA-C	5.16	115.88	110.62
1	C	164	TYR	CA-CB-CG	5.10	123.08	113.90

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	1323	0	1368	53	0
1	C	1330	0	1381	37	0
2	B	919	0	881	36	0
2	D	910	0	868	12	0
All	All	4482	0	4498	117	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 13.

All (117) 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:205:ALA:HB3	2:B:238:LEU:HA	1.20	1.11
2:B:205:ALA:HB1	2:B:238:LEU:CD1	1.88	1.02
1:C:155:GLN:HE21	2:D:315:LEU:HB2	1.30	0.95
2:B:205:ALA:HB1	2:B:238:LEU:HD13	1.49	0.93
2:B:205:ALA:HB1	2:B:238:LEU:HD12	1.61	0.81
2:B:205:ALA:CB	2:B:238:LEU:CD1	2.57	0.81
2:B:205:ALA:CB	2:B:238:LEU:HD12	2.13	0.79
1:C:155:GLN:HE22	2:D:314:ILE:C	1.93	0.77
2:B:264:TYR:OH	2:B:273:LYS:HE3	1.85	0.76
2:B:237:LYS:HB2	2:B:301:LYS:HB2	1.66	0.75
1:A:148:ASN:HD22	1:A:151:VAL:HG23	1.50	0.74
2:B:264:TYR:OH	2:B:273:LYS:CE	2.35	0.74
2:B:205:ALA:CB	2:B:238:LEU:HD13	2.21	0.69
1:C:148:ASN:ND2	1:C:151:VAL:HG23	2.07	0.68
1:A:100:GLY:O	1:A:104:THR:N	2.26	0.67
1:C:93:GLY:HA2	1:C:123:LEU:HD13	1.77	0.66
2:B:205:ALA:HB3	2:B:238:LEU:CA	2.12	0.63
1:A:105:ASN:ND2	1:C:158:GLU:OE2	2.33	0.62
1:C:145:ASP:OD1	1:C:151:VAL:HG11	1.99	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:168:ALA:O	1:C:169:ALA:C	2.45	0.60
1:A:140:ASN:HA	1:A:143:ILE:HD12	1.83	0.60
1:A:34:PHE:CE2	2:B:223:LEU:HD21	2.38	0.59
1:A:150:LEU:O	2:B:256:SER:HB2	2.03	0.58
1:C:17:TRP:CH2	1:C:21:ILE:HD11	2.38	0.58
1:A:100:GLY:HA3	1:A:116:ILE:HG21	1.86	0.58
2:B:264:TYR:OH	2:B:273:LYS:HE2	2.03	0.58
1:C:17:TRP:CZ3	1:C:21:ILE:HD11	2.39	0.58
2:D:203:ALA:O	2:D:237:LYS:HG2	2.05	0.57
1:A:150:LEU:O	2:B:313:ALA:HB3	2.04	0.57
1:A:150:LEU:HD13	2:B:312:TYR:HA	1.85	0.57
1:A:43:GLN:OE1	1:A:54:VAL:HG11	2.04	0.57
1:A:150:LEU:HD22	2:B:259:VAL:HG22	1.88	0.56
2:B:215:LEU:HD23	2:B:224:TYR:HB2	1.89	0.55
1:C:138:SER:O	1:C:141:THR:HG22	2.08	0.53
1:C:155:GLN:OE1	2:D:313:ALA:HB1	2.08	0.53
1:C:155:GLN:NE2	2:D:314:ILE:C	2.64	0.53
1:A:18:LEU:O	1:A:21:ILE:HB	2.09	0.53
1:A:100:GLY:O	1:A:104:THR:CB	2.57	0.52
1:A:28:MET:SD	1:A:28:MET:N	2.83	0.52
1:A:30:ARG:HB3	1:A:47:GLU:HB2	1.92	0.52
1:A:95:LEU:C	1:A:95:LEU:HD23	2.36	0.51
1:A:102:GLN:HA	1:A:102:GLN:OE1	2.11	0.51
1:A:145:ASP:OD1	1:A:157:ARG:HD2	2.11	0.50
1:C:165:VAL:O	1:C:166:GLY:C	2.54	0.50
1:A:93:GLY:HA2	1:A:123:LEU:HD13	1.93	0.50
1:C:155:GLN:HE21	2:D:315:LEU:CB	2.13	0.50
2:D:256:SER:HB3	2:D:259:VAL:HG23	1.93	0.50
1:A:84:VAL:HA	1:A:87:ILE:HD12	1.94	0.49
1:C:97:ALA:HB2	1:C:120:ALA:CB	2.42	0.49
1:C:86:SER:OG	1:C:127:ALA:O	2.20	0.49
2:B:238:LEU:HD23	2:B:300:MET:SD	2.52	0.49
1:A:23:CYS:SG	1:A:165:VAL:HG12	2.53	0.49
1:A:155:GLN:HG2	2:B:315:LEU:HD13	1.94	0.48
1:A:43:GLN:NE2	2:B:220:ALA:HB3	2.29	0.48
1:A:100:GLY:O	1:A:104:THR:HG23	2.14	0.48
1:A:105:ASN:O	1:C:35:ILE:HD13	2.14	0.48
1:C:30:ARG:NH1	1:C:75:ASP:OD2	2.47	0.48
1:A:148:ASN:OD1	2:B:310:TYR:HB3	2.14	0.47
1:A:172:LEU:O	1:A:176:GLY:N	2.43	0.47
1:C:17:TRP:CZ3	1:C:21:ILE:CD1	2.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:211:LEU:HD11	2:B:316:PHE:CD1	2.50	0.47
1:C:39:ILE:HA	2:D:317:GLN:HE22	1.79	0.47
2:B:226:TRP:CH2	2:B:228:SER:HB3	2.51	0.46
2:B:203:ALA:HA	2:B:236:GLN:HA	1.96	0.46
1:C:18:LEU:O	1:C:22:VAL:HG23	2.15	0.46
1:A:129:LEU:O	1:A:133:VAL:HG23	2.16	0.46
1:A:140:ASN:HA	1:A:143:ILE:CD1	2.46	0.46
1:A:100:GLY:O	1:A:104:THR:OG1	2.32	0.46
1:A:39:ILE:HG22	2:B:317:GLN:NE2	2.31	0.46
2:D:271:LEU:HD12	2:D:271:LEU:N	2.31	0.46
2:B:238:LEU:HB3	2:B:300:MET:HG2	1.97	0.45
1:C:35:ILE:HD12	1:C:35:ILE:O	2.16	0.45
1:A:86:SER:HB2	1:A:130:LEU:HB2	1.99	0.45
1:C:148:ASN:HD22	1:C:151:VAL:HG23	1.80	0.45
1:C:168:ALA:HA	1:C:171:ALA:HB3	1.98	0.45
1:C:46:TRP:HB2	1:C:53:CYS:O	2.17	0.45
1:A:132:LEU:O	1:A:136:SER:OG	2.19	0.45
2:B:205:ALA:HB3	2:B:238:LEU:HD12	1.95	0.45
1:A:10:THR:HG21	1:C:164:TYR:CE1	2.51	0.45
2:B:209:LEU:HD23	2:B:211:LEU:N	2.31	0.45
1:A:17:TRP:CH2	1:A:21:ILE:HD11	2.52	0.45
2:B:228:SER:OG	2:B:312:TYR:N	2.50	0.44
1:C:85:VAL:O	1:C:89:LEU:N	2.45	0.44
2:D:211:LEU:HD12	2:D:242:LEU:HD22	1.99	0.44
1:C:89:LEU:HD23	1:C:127:ALA:HA	2.00	0.43
1:A:79:ALA:HB2	1:A:134:GLY:O	2.18	0.43
1:A:136:SER:O	1:A:139:ALA:HB3	2.18	0.43
1:A:30:ARG:O	1:A:47:GLU:HB2	2.18	0.43
1:C:89:LEU:HD23	1:C:127:ALA:CA	2.49	0.43
1:C:34:PHE:HB2	1:C:43:GLN:O	2.18	0.43
1:A:43:GLN:HB3	2:B:223:LEU:HD22	2.01	0.42
2:D:263:ILE:CD1	2:D:291:LEU:HD11	2.48	0.42
1:C:23:CYS:SG	1:C:165:VAL:HG12	2.59	0.42
1:A:125:LEU:O	1:A:129:LEU:HG	2.19	0.42
1:C:135:VAL:O	1:C:138:SER:N	2.53	0.42
1:A:93:GLY:HA2	1:A:96:VAL:HG22	2.01	0.42
1:A:51:MET:C	1:A:66:TYR:CE2	2.98	0.42
1:A:148:ASN:ND2	1:A:151:VAL:HG23	2.27	0.42
1:A:15:LEU:HD23	1:A:172:LEU:HD13	2.02	0.41
1:A:23:CYS:SG	1:A:166:GLY:N	2.93	0.41
1:A:138:SER:O	1:A:141:THR:HG22	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:150:LEU:HD22	2:B:259:VAL:CG2	2.50	0.41
1:A:43:GLN:HE22	2:B:220:ALA:HB3	1.83	0.41
2:B:205:ALA:HB3	2:B:238:LEU:CD1	2.48	0.41
1:A:14:VAL:HG22	1:A:94:LEU:HD11	2.03	0.41
2:B:205:ALA:O	2:B:239:ASN:HB2	2.20	0.41
1:C:50:TRP:CD1	1:C:80:ARG:HD2	2.55	0.41
1:C:168:ALA:O	1:C:171:ALA:N	2.53	0.41
1:A:17:TRP:CZ2	1:A:21:ILE:HD11	2.55	0.41
1:A:31:VAL:HG12	1:A:158:GLU:O	2.20	0.41
1:A:51:MET:HG3	1:A:65:MET:HG2	2.03	0.41
1:C:46:TRP:N	1:C:53:CYS:O	2.54	0.40
2:B:260:ASP:HB2	2:B:301:LYS:O	2.21	0.40
1:C:23:CYS:O	1:C:29:TRP:NE1	2.49	0.40
1:A:101:ALA:HA	1:A:104:THR:HG1	1.87	0.40
1:C:97:ALA:HB2	1:C:120:ALA:HB2	2.04	0.40
2:D:287:VAL:HG12	2:D:289:ILE:HG22	2.04	0.40

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	182/190 (96%)	179 (98%)	3 (2%)	0	100	100
1	C	182/190 (96%)	178 (98%)	4 (2%)	0	100	100
2	B	115/119 (97%)	113 (98%)	2 (2%)	0	100	100
2	D	115/119 (97%)	115 (100%)	0	0	100	100
All	All	594/618 (96%)	585 (98%)	9 (2%)	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	132/143 (92%)	132 (100%)	0	100	100
1	C	134/143 (94%)	134 (100%)	0	100	100
2	B	98/102 (96%)	98 (100%)	0	100	100
2	D	96/102 (94%)	96 (100%)	0	100	100
All	All	460/490 (94%)	460 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	173	GLN
2	B	249	GLN
2	B	317	GLN
1	C	105	ASN
1	C	140	ASN
1	C	155	GLN
2	D	230	ASN
2	D	236	GLN
2	D	241	HIS
2	D	276	GLN
2	D	309	ASN

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 [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 [i](#)

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	184/190 (96%)	0.73	34 (18%) 3 7	138, 227, 373, 474	0
1	C	184/190 (96%)	0.60	21 (11%) 10 14	120, 247, 412, 483	0
2	B	117/119 (98%)	0.57	18 (15%) 5 9	197, 278, 348, 405	0
2	D	117/119 (98%)	0.57	19 (16%) 4 8	212, 298, 389, 434	0
All	All	602/618 (97%)	0.63	92 (15%) 5 9	120, 266, 384, 483	0

All (92) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	1	MET	18.4
1	A	68	SER	12.9
1	A	67	ASP	12.4
2	B	271	LEU	9.6
1	C	58	THR	9.3
1	C	2	SER	9.0
1	C	0	SER	8.7
2	D	268	PHE	8.1
1	A	4	GLY	7.3
2	D	269	ASN	7.2
1	A	5	LEU	7.1
2	B	280	ASP	6.7
1	A	102	GLN	6.6
1	A	3	MET	6.2
1	A	107	VAL	6.0
2	D	308	GLY	5.9
1	A	70	LEU	5.8
2	B	270	ASN	5.7
1	A	137	TRP	5.7
1	C	74	GLN	5.5
1	A	109	ASP	5.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	183	SER	5.2
2	B	272	VAL	5.1
1	A	74	GLN	4.9
2	D	270	ASN	4.9
1	C	159	MET	4.8
1	A	2	SER	4.8
1	C	110	GLU	4.5
2	B	307	SER	4.5
2	D	230	ASN	4.3
2	B	282	VAL	4.3
1	C	114	ALA	4.3
1	A	8	THR	4.2
2	B	212	THR	4.2
1	A	99	VAL	4.2
2	D	307	SER	4.2
1	A	103	ALA	3.9
1	C	118	ILE	3.9
1	C	115	LYS	3.9
1	A	108	GLN	3.8
1	C	59	GLY	3.7
2	B	281	GLY	3.5
2	B	266	ASN	3.5
2	D	309	ASN	3.4
1	A	182	ALA	3.3
2	D	233	PRO	3.3
1	C	117	THR	3.3
1	A	106	ALA	3.3
1	A	104	THR	3.2
2	B	279	GLY	3.2
2	D	232	TYR	3.2
1	A	145	ASP	3.2
1	A	98	LEU	3.2
1	A	71	ALA	3.1
2	B	265	SER	3.1
1	A	95	LEU	3.1
1	A	144	ARG	3.0
2	D	231	SER	2.8
2	D	267	ASN	2.8
1	C	11	SER	2.8
1	C	175	LEU	2.7
1	A	146	PHE	2.7
1	C	167	TRP	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	D	288	ASP	2.6
1	C	57	SER	2.6
2	B	267	ASN	2.6
1	A	157	ARG	2.6
1	C	161	ALA	2.5
2	D	207	GLU	2.5
2	B	319	PHE	2.5
2	B	213	ASP	2.4
1	A	37	SER	2.4
2	D	306	TYR	2.4
2	D	229	SER	2.3
2	B	227	ARG	2.3
2	D	235	THR	2.3
1	C	108	GLN	2.3
1	A	147	TYR	2.2
1	A	183	SER	2.2
1	A	69	LEU	2.2
2	B	288	ASP	2.2
1	A	7	ILE	2.2
1	A	77	GLN	2.2
2	B	225	ASP	2.1
1	C	164	TYR	2.1
2	D	271	LEU	2.1
1	A	11	SER	2.1
2	D	217	SER	2.1
1	C	37	SER	2.1
2	D	266	ASN	2.1
2	B	248	GLY	2.0
1	A	140	ASN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.