



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 30, 2026 – 12:25 PM JST

PDB ID : 9UCG / pdb\_00009ucg  
Title : A Fab structure with a covalent bond  
Authors : Makabe, K.; Nakanishi, T.  
Deposited on : 2025-04-04  
Resolution : 2.65 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](mailto: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>.

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

MolProbity : 4-5-2 with Phenix2.0  
Xtrriage (Phenix) : 2.0  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
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) : 2.48.1

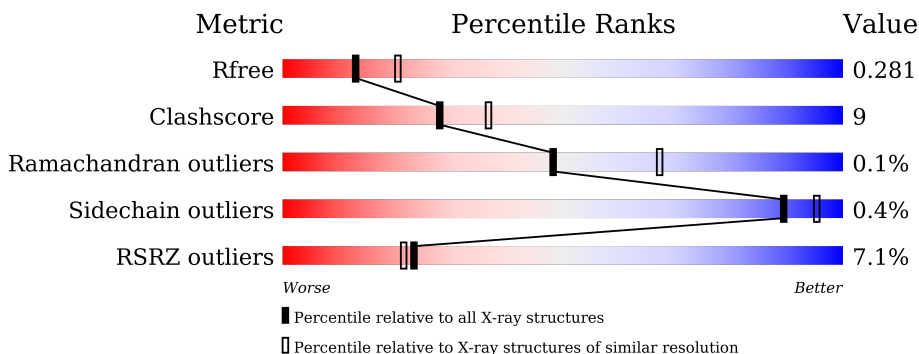
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.65 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))
$R_{free}$	164625	1003 (2.66-2.66)
Clashscore	180529	1063 (2.66-2.66)
Ramachandran outliers	177936	1052 (2.66-2.66)
Sidechain outliers	177891	1052 (2.66-2.66)
RSRZ outliers	164620	1003 (2.66-2.66)

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  $\geq 3$ , 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	222	 5% 81% 17% .
1	C	222	 9% 71% 24% 5%
2	B	218	 % 83% 16%
2	D	218	 14% 72% 24% .

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 6636 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 Anti-CD63 VH-CH1 iso.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	218	Total 1650	C 1046	N 271	O 327	S 6	0	0	0
1	C	211	Total 1599	C 1014	N 264	O 316	S 5	0	0	0

- Molecule 2 is a protein called Anti-CD63 VL-CL iso.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	218	Total 1683	C 1054	N 287	O 335	S 7	0	0	0
2	D	210	Total 1624	C 1020	N 277	O 320	S 7	0	0	0

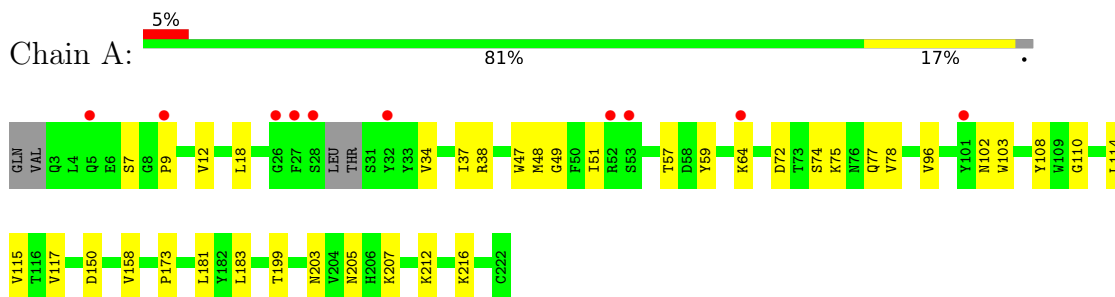
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	23	Total 23	O 23	0	0
3	B	26	Total 26	O 26	0	0
3	C	13	Total 13	O 13	0	0
3	D	18	Total 18	O 18	0	0

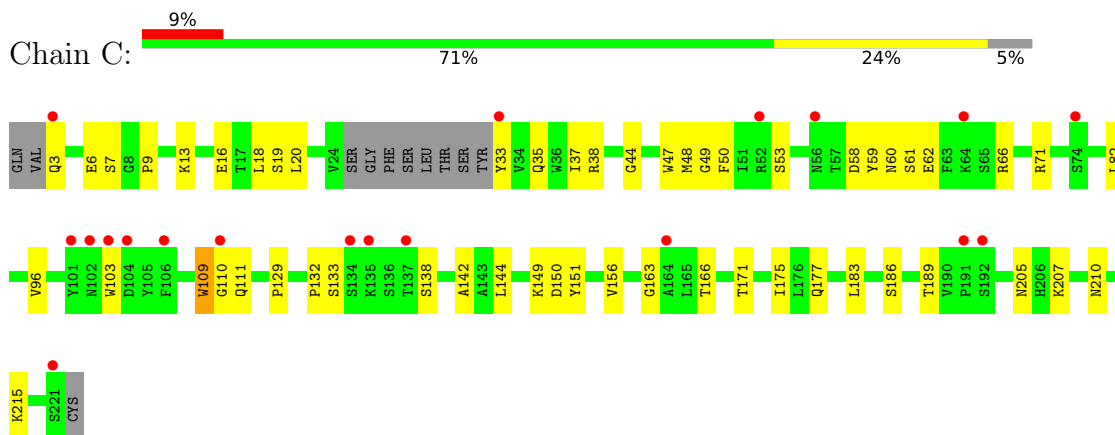
### 3 Residue-property plots [i](#)

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.

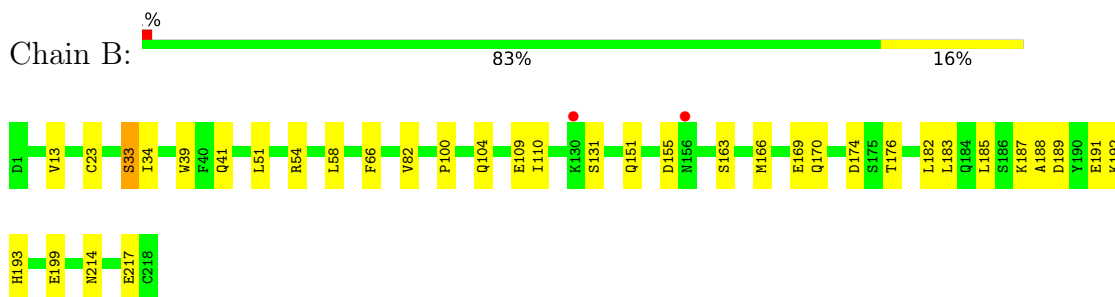
- Molecule 1: Anti-CD63 VH-CH1 iso



- Molecule 1: Anti-CD63 VH-CH1 iso

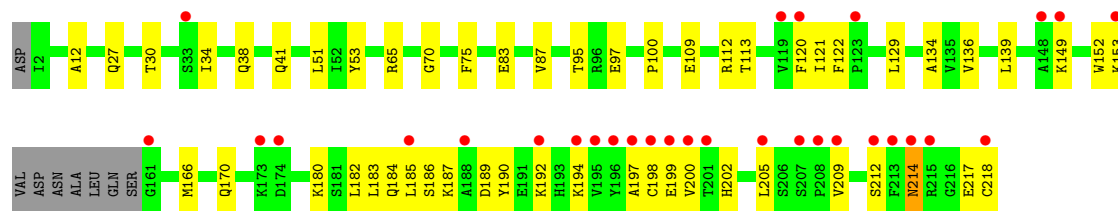


- Molecule 2: Anti-CD63 VL-CL iso



- Molecule 2: Anti-CD63 VL-CL iso





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	101.23Å 101.23Å 212.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.24 – 2.65 49.24 – 2.65	Depositor EDS
% Data completeness (in resolution range)	100.0 (49.24-2.65) 99.9 (49.24-2.65)	Depositor EDS
$R_{merge}$	0.17	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.26 (at 2.65Å)	Xtrriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, $R_{free}$	0.220 , 0.281 0.220 , 0.281	Depositor DCC
$R_{free}$ test set	2000 reflections (6.07%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	48.7	Xtrriage
Anisotropy	0.354	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.37 , 43.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	6636	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	48.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 14.26% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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	0.40	0/1691	0.62	0/2303
1	C	0.38	0/1638	0.61	2/2232 (0.1%)
2	B	0.44	0/1717	0.62	0/2328
2	D	0.41	0/1657	0.68	0/2244
All	All	0.41	0/6703	0.64	2/9107 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	109	TRP	CA-C-N	-5.36	114.33	122.04
1	C	109	TRP	C-N-CA	-5.36	114.33	122.04

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	1650	0	1609	25	0
1	C	1599	0	1569	36	0
2	B	1683	0	1656	22	0
2	D	1624	0	1601	37	0
3	A	23	0	0	1	0
3	B	26	0	0	1	0
3	C	13	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	D	18	0	0	1	0
All	All	6636	0	6435	114	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 (114) 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:34:ILE:HD13	2:B:54:ARG:HH21	1.19	1.07
2:B:34:ILE:CD1	2:B:54:ARG:HH21	1.90	0.83
1:C:6:GLU:OE2	1:C:110:GLY:HA3	1.83	0.79
2:B:34:ILE:HD13	2:B:54:ARG:NH2	1.99	0.77
1:A:59:TYR:CD2	1:A:64:LYS:HD3	2.27	0.70
1:C:47:TRP:CD2	2:D:100:PRO:HD2	2.31	0.66
2:D:186:SER:HG	2:D:189:ASP:H	1.45	0.64
1:C:53:SER:HA	1:C:71:ARG:NH1	2.17	0.60
2:D:199:GLU:HB2	2:D:209:VAL:O	2.02	0.60
2:D:136:VAL:HG13	2:D:183:LEU:HB3	1.84	0.59
1:A:216:LYS:HB3	1:C:210:ASN:HB3	1.85	0.58
2:B:187:LYS:NZ	2:B:191:GLU:OE1	2.36	0.58
1:A:59:TYR:HD2	1:A:64:LYS:HD3	1.69	0.57
2:D:152:TRP:CZ3	2:D:198:CYS:HB2	2.39	0.57
2:D:38:GLN:HG3	2:D:53:TYR:HA	1.85	0.56
1:C:177:GLN:OE1	1:C:183:LEU:HD12	2.05	0.56
1:A:199:THR:HG23	1:A:216:LYS:HE3	1.86	0.56
1:C:103:TRP:CD1	1:C:103:TRP:N	2.74	0.56
2:D:152:TRP:HA	2:D:197:ALA:O	2.05	0.56
1:A:34:VAL:HG11	1:A:78:VAL:HG21	1.88	0.55
2:D:197:ALA:HA	2:D:212:SER:OG	2.06	0.55
1:C:9:PRO:HD2	1:C:207:LYS:HD2	1.89	0.54
1:A:37:ILE:HD12	1:A:96:VAL:HG21	1.90	0.54
2:B:155:ASP:OD2	2:B:193:HIS:HB3	2.08	0.54
1:C:129:PRO:HD3	1:C:215:LYS:HE2	1.90	0.54
1:A:47:TRP:CD2	2:B:100:PRO:HD2	2.44	0.53
1:A:75:LYS:O	1:A:77:GLN:HG3	2.08	0.53
2:D:87:VAL:HG21	2:D:170:GLN:HB3	1.91	0.53
2:B:104:GLN:HB2	3:B:316:HOH:O	2.08	0.52
1:A:108:TYR:CZ	1:A:110:GLY:HA2	2.45	0.52
2:B:151:GLN:HB2	2:B:199:GLU:HB3	1.92	0.52
2:B:188:ALA:O	2:B:192:LYS:HG3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:47:TRP:CH2	1:A:49:GLY:HA2	2.45	0.52
1:A:212:LYS:HD2	3:A:323:HOH:O	2.09	0.52
1:C:7:SER:HB2	1:C:111:GLN:HB3	1.92	0.51
1:A:102:ASN:CG	1:A:103:TRP:H	2.19	0.50
2:D:186:SER:OG	2:D:189:ASP:N	2.35	0.50
2:D:185:LEU:HD12	2:D:190:TYR:HD1	1.75	0.49
1:C:175:ILE:HD11	2:D:166:MET:HB2	1.93	0.49
2:D:95:THR:HG22	2:D:100:PRO:HB3	1.94	0.49
2:D:27:GLN:NE2	2:D:97:GLU:OE2	2.46	0.49
1:C:60:ASN:OD1	1:C:61:SER:N	2.46	0.48
2:D:65:ARG:CZ	2:D:83:GLU:HG3	2.43	0.48
1:C:33:TYR:N	3:C:302:HOH:O	2.47	0.48
1:C:62:GLU:O	1:C:62:GLU:OE1	2.32	0.48
2:D:218:CYS:OXT	2:D:218:CYS:SG	2.71	0.48
2:D:149:LYS:O	2:D:200:VAL:HA	2.14	0.47
2:D:121:ILE:HD13	2:D:212:SER:HA	1.96	0.47
1:C:109:TRP:CD1	1:C:109:TRP:N	2.83	0.47
1:A:12:VAL:O	1:A:117:VAL:HA	2.14	0.47
2:B:169:GLU:CD	2:B:170:GLN:H	2.23	0.47
2:D:185:LEU:HD13	2:D:190:TYR:HA	1.97	0.47
2:B:189:ASP:OD1	2:B:192:LYS:NZ	2.36	0.46
2:D:129:LEU:HD22	2:D:187:LYS:HG2	1.96	0.46
1:C:44:GLY:HA3	3:C:307:HOH:O	2.15	0.46
1:C:58:ASP:OD1	1:C:59:TYR:N	2.49	0.46
1:C:47:TRP:CH2	1:C:49:GLY:HA2	2.51	0.45
1:C:149:LYS:HG2	1:C:150:ASP:CG	2.42	0.45
2:D:112:ARG:NE	2:D:113:THR:O	2.38	0.45
1:C:3:GLN:HA	1:C:19:SER:HB3	1.97	0.45
2:D:180:LYS:HD2	2:D:182:LEU:HD21	1.99	0.44
2:D:136:VAL:CG1	2:D:183:LEU:HB3	2.47	0.44
1:C:18:LEU:HD11	1:C:20:LEU:HD21	1.99	0.44
2:D:189:ASP:HA	2:D:192:LYS:HD2	1.98	0.44
2:D:134:ALA:O	2:D:184:GLN:HA	2.17	0.44
1:C:35:GLN:HE21	1:C:47:TRP:HE1	1.65	0.44
1:A:183:LEU:C	1:A:183:LEU:HD23	2.43	0.44
1:A:9:PRO:HB3	1:A:114:LEU:O	2.17	0.44
2:D:194:LYS:O	2:D:214:ASN:HA	2.18	0.43
1:C:133:SER:HB2	2:D:218:CYS:SG	2.58	0.43
2:B:58:LEU:HD11	2:B:66:PHE:O	2.19	0.43
2:D:70:GLY:HA3	2:D:75:PHE:HA	2.01	0.43
1:C:138:SER:HB2	3:D:307:HOH:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:30:THR:HA	2:D:34:ILE:O	2.19	0.43
2:D:202:HIS:O	2:D:205:LEU:HG	2.19	0.43
1:A:72:ASP:OD1	1:A:74:SER:HB3	2.19	0.43
2:D:153:LYS:HA	2:D:153:LYS:HD3	1.64	0.43
1:A:150:ASP:HA	1:A:181:LEU:HB3	2.01	0.43
1:C:38:ARG:HD3	1:C:48:MET:SD	2.59	0.43
2:D:12:ALA:HA	2:D:109:GLU:O	2.18	0.43
2:B:13:VAL:HG11	2:B:82:VAL:HG21	2.00	0.42
1:A:51:ILE:HG13	1:A:57:THR:HG22	2.02	0.42
1:A:158:VAL:HA	1:A:203:ASN:O	2.18	0.42
1:A:173:PRO:O	2:B:166:MET:HG2	2.19	0.42
1:C:142:ALA:O	1:C:189:THR:HA	2.19	0.42
1:C:37:ILE:HD12	1:C:96:VAL:HG21	2.01	0.42
1:C:50:PHE:CD1	1:C:50:PHE:C	2.98	0.42
1:A:207:LYS:HB3	1:A:207:LYS:HE3	1.84	0.42
1:C:132:PRO:HD3	1:C:144:LEU:HB3	2.01	0.42
2:B:109:GLU:HG2	2:B:110:ILE:N	2.34	0.42
1:C:47:TRP:HZ2	1:C:50:PHE:HD2	1.67	0.42
1:C:151:TYR:CE1	1:C:156:VAL:HG13	2.54	0.42
1:C:171:THR:HG22	1:C:186:SER:OG	2.19	0.42
2:B:41:GLN:HB2	2:B:51:LEU:HD11	2.02	0.42
2:B:174:ASP:OD1	2:B:176:THR:OG1	2.32	0.42
1:C:156:VAL:HA	1:C:205:ASN:O	2.20	0.41
1:A:38:ARG:HD3	1:A:48:MET:SD	2.60	0.41
2:B:23:CYS:HB2	2:B:39:TRP:CH2	2.55	0.41
2:B:183:LEU:HG	2:B:185:LEU:HD13	2.01	0.41
2:D:217:GLU:O	2:D:218:CYS:C	2.63	0.41
1:C:13:LYS:HB2	1:C:16:GLU:CD	2.46	0.41
2:D:41:GLN:HB2	2:D:51:LEU:HD11	2.02	0.41
2:D:122:PHE:O	2:D:136:VAL:HG23	2.20	0.41
1:C:66:ARG:O	1:C:82:LEU:HA	2.20	0.41
1:A:18:LEU:HD13	1:A:115:VAL:HG11	2.02	0.41
2:B:163:SER:HA	2:B:182:LEU:O	2.21	0.41
2:D:112:ARG:NH2	2:D:113:THR:OG1	2.53	0.41
2:D:120:PHE:HD2	2:D:139:LEU:HD23	1.86	0.41
1:A:64:LYS:HA	1:A:64:LYS:HD2	1.86	0.40
2:B:33:SER:O	2:B:33:SER:OG	2.37	0.40
1:A:205:ASN:OD1	1:A:212:LYS:HG3	2.21	0.40
1:C:163:GLY:O	1:C:166:THR:HG23	2.21	0.40
2:B:214:ASN:O	2:B:217:GLU:HG2	2.21	0.40
1:C:183:LEU:HD23	1:C:183:LEU:C	2.47	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	214/222 (96%)	205 (96%)	9 (4%)	0	100	100
1	C	207/222 (93%)	195 (94%)	12 (6%)	0	100	100
2	B	216/218 (99%)	207 (96%)	8 (4%)	1 (0%)	25	40
2	D	206/218 (94%)	194 (94%)	12 (6%)	0	100	100
All	All	843/880 (96%)	801 (95%)	41 (5%)	1 (0%)	48	67

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	131	SER

### 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	189/193 (98%)	188 (100%)	1 (0%)	86	94
1	C	183/193 (95%)	183 (100%)	0	100	100
2	B	191/191 (100%)	190 (100%)	1 (0%)	86	94
2	D	184/191 (96%)	183 (100%)	1 (0%)	86	94
All	All	747/768 (97%)	744 (100%)	3 (0%)	89	95

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	7	SER
2	B	33	SER
2	D	214	ASN

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	39	GLN
2	B	42	GLN
2	B	46	GLN
2	B	104	GLN
2	B	141	ASN
2	B	142	ASN
2	B	156	ASN
2	D	46	GLN
2	D	57	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	218/222 (98%)	0.19	10 (4%) 38 35	31, 44, 70, 85	0
1	C	211/222 (95%)	0.49	19 (9%) 17 15	34, 51, 76, 89	0
2	B	218/218 (100%)	-0.16	2 (0%) 81 79	27, 39, 54, 73	0
2	D	210/218 (96%)	0.56	30 (14%) 7 6	30, 50, 80, 89	0
All	All	857/880 (97%)	0.27	61 (7%) 23 21	27, 45, 75, 89	0

All (61) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	D	174	ASP	4.5
2	D	212	SER	4.4
1	A	27	PHE	4.4
2	D	195	VAL	4.3
1	C	221	SER	4.3
2	D	213	PHE	3.7
2	D	199	GLU	3.5
2	B	130	LYS	3.4
1	A	32	TYR	3.4
1	A	28	SER	3.4
1	C	103	TRP	3.4
1	A	26	GLY	3.4
1	A	53	SER	3.3
2	D	188	ALA	3.3
2	D	197	ALA	3.3
1	C	137	THR	3.3
1	C	106	PHE	3.3
2	D	196	TYR	3.2
1	C	104	ASP	3.1
2	D	153	LYS	3.1
2	D	200	VAL	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	D	120	PHE	3.0
2	D	119	VAL	3.0
2	D	205	LEU	2.9
1	C	3	GLN	2.9
1	C	135	LYS	2.9
1	A	101	TYR	2.9
1	C	74	SER	2.8
2	D	215	ARG	2.8
1	C	52	ARG	2.7
1	C	56	ASN	2.7
1	C	102	ASN	2.7
2	D	218	CYS	2.7
1	C	64	LYS	2.6
2	D	194	LYS	2.5
2	B	156	ASN	2.5
2	D	214	ASN	2.5
2	D	161	GLY	2.5
2	D	207	SER	2.5
1	C	101	TYR	2.5
2	D	148	ALA	2.5
2	D	173	LYS	2.4
1	C	33	TYR	2.4
1	C	110	GLY	2.4
1	C	192	SER	2.4
2	D	198	CYS	2.4
1	C	134	SER	2.3
2	D	192	LYS	2.3
1	C	191	PRO	2.2
2	D	33	SER	2.2
1	A	9	PRO	2.2
1	A	5	GLN	2.2
2	D	209	VAL	2.2
2	D	123	PRO	2.1
1	A	52	ARG	2.1
2	D	208	PRO	2.1
1	A	64	LYS	2.1
2	D	149	LYS	2.1
2	D	201	THR	2.1
2	D	185	LEU	2.1
1	C	164	ALA	2.1

## 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.