Full wwPDB X-ray Structure Validation Report ⓘ

Dec 8, 2025 – 06:27 PM JST

PDB ID	:	9VX2 / pdb_00009vx2
Title	:	Crystal structure of the apo form of HisMab-1 Fab
Authors	:	Hoshi, S.; Arimori, T.; Harada-Hikita, A.
Deposited on	:	2025-07-18
Resolution	:	2.39 Å(reported)

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

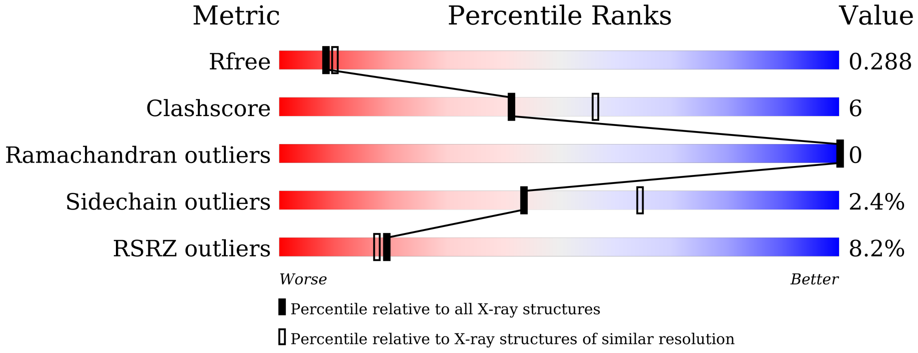
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

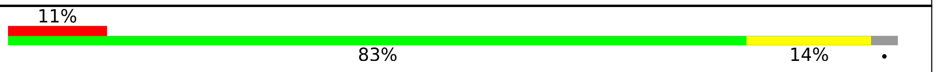
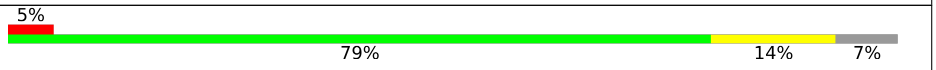
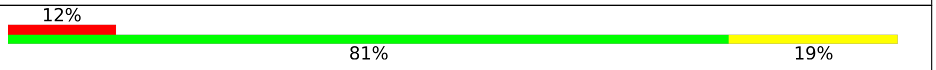
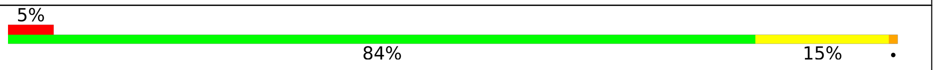
The reported resolution of this entry is 2.39 Å.

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	4642 (2.40-2.40)
Clashscore	180529	5218 (2.40-2.40)
Ramachandran outliers	177936	5158 (2.40-2.40)
Sidechain outliers	177891	5159 (2.40-2.40)
RSRZ outliers	164620	4642 (2.40-2.40)

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	226	
1	C	226	
2	B	220	
2	D	220	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 6704 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.

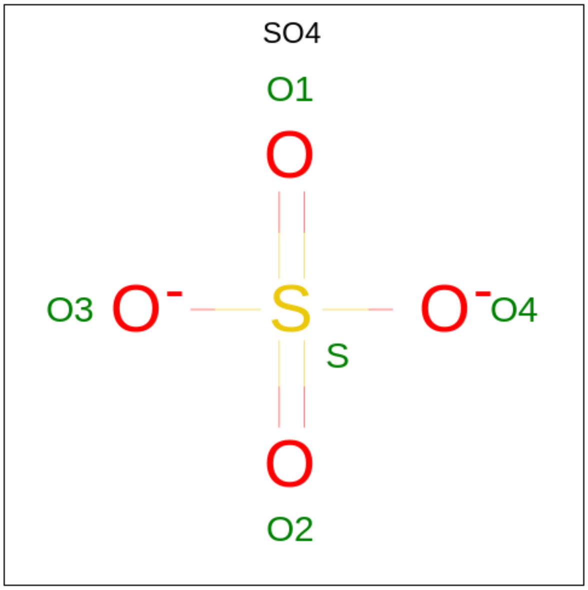
- Molecule 1 is a protein called HisMab-1 immunoglobulin heavy chain variable region.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	220	1642	1033	265	335	9	0	0	0
1	C	210	1583	999	255	320	9	0	0	0

- Molecule 2 is a protein called HisMab-1 immunoglobulin light chain variable region.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	220	1691	1047	288	348	8	0	0	0
2	D	220	1691	1047	288	348	8	0	0	0

- Molecule 3 is SULFATE ION (CCD ID: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0
3	D	1	Total O S 5 4 1	0	0
3	D	1	Total O S 5 4 1	0	0

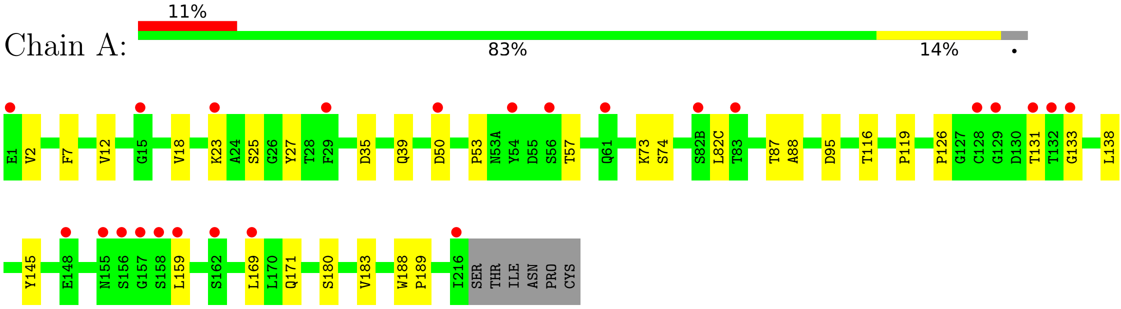
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	22	Total O 22 22	0	0
4	B	11	Total O 11 11	0	0
4	C	14	Total O 14 14	0	0
4	D	20	Total O 20 20	0	0

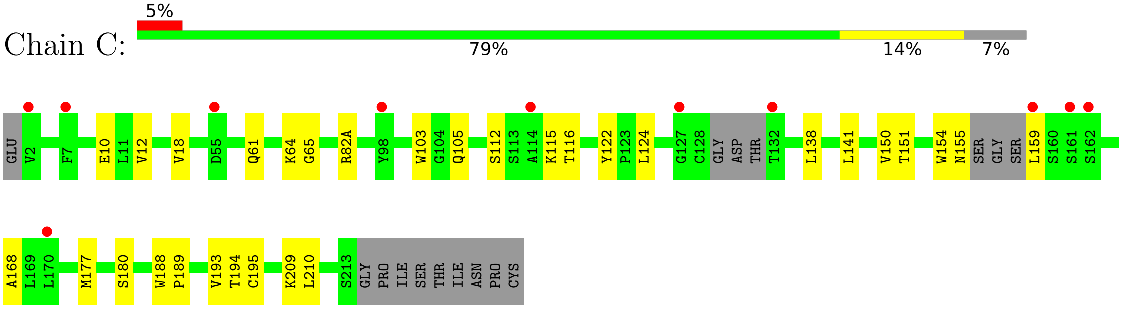
3 Residue-property plots

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.

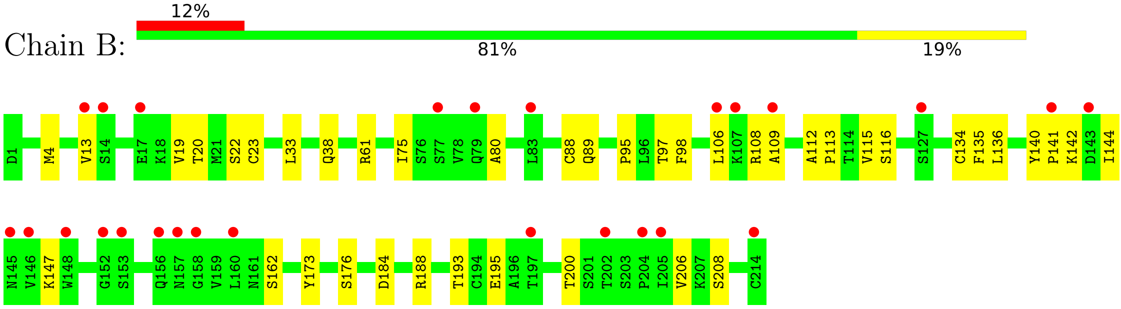
- Molecule 1: HisMab-1 immunoglobulin heavy chain variable region



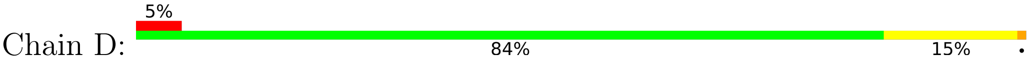
- Molecule 1: HisMab-1 immunoglobulin heavy chain variable region

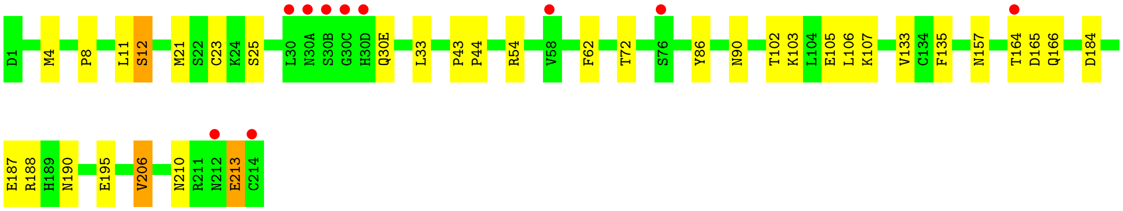


- Molecule 2: HisMab-1 immunoglobulin light chain variable region



- Molecule 2: HisMab-1 immunoglobulin light chain variable region




D1
M4
P8
L11
S12
M21
S22
C23
K24
S25
L30
N30A
S30B
G30C
H30D
Q30E
L33
P43
P44
R54
V58
F62
T72
S76
Y86
N90
T102
K103
L104
E105
L106
K107
V133
C134
F135
N157
T164
D165
Q166
D184
E187
R188
H189
N190
E195
V206
N210
R211
N212
E213
C214

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	73.72Å 191.10Å 177.38Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.20 – 2.39 48.20 – 2.39	Depositor EDS
% Data completeness (in resolution range)	99.7 (48.20-2.39) 99.9 (48.20-2.39)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.42 (at 2.39Å)	Xtriage
Refinement program	PHENIX 1.21.2_5419	Depositor
R, R_{free}	0.232 , 0.288 0.231 , 0.288	Depositor DCC
R_{free} test set	2556 reflections (5.11%)	wwPDB-VP
Wilson B-factor (Å^2)	48.2	Xtriage
Anisotropy	0.927	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 36.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	6704	wwPDB-VP
Average B, all atoms (Å^2)	58.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.62% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: SO4

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	0.39	0/1684	0.60	0/2301
1	C	0.38	0/1622	0.55	0/2213
2	B	0.40	0/1727	0.61	0/2343
2	D	0.41	0/1727	0.61	0/2343
All	All	0.39	0/6760	0.59	0/9200

There are no bond length outliers.

There are no bond angle outliers.

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	1642	0	1584	16	0
1	C	1583	0	1529	18	0
2	B	1691	0	1626	31	0
2	D	1691	0	1626	24	0
3	A	5	0	0	0	0
3	B	15	0	0	0	0
3	D	10	0	0	0	0
4	A	22	0	0	0	0
4	B	11	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C	14	0	0	0	0
4	D	20	0	0	0	0
All	All	6704	0	6365	82	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 6.

All (82) 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:A:39:GLN:HE22	2:B:38:GLN:HE22	1.30	0.80
2:B:184:ASP:HB3	2:B:188:ARG:HH21	1.50	0.76
2:D:21:MET:HE1	2:D:86:TYR:HB2	1.66	0.76
1:C:115:LYS:HD3	1:C:116:THR:N	2.01	0.75
2:D:21:MET:HE3	2:D:102:THR:HB	1.69	0.74
2:B:140:TYR:CD2	2:B:141:PRO:HA	2.24	0.73
1:C:115:LYS:HD3	1:C:116:THR:H	1.55	0.70
2:D:106:LEU:H	2:D:166:GLN:HE22	1.40	0.69
1:C:65:GLY:O	1:C:82(A):ARG:HD3	1.95	0.66
2:B:33:LEU:HD21	2:B:88:CYS:HB2	1.80	0.63
2:B:108:ARG:H	2:B:140:TYR:HE1	1.48	0.62
1:C:194:THR:HG22	1:C:209:LYS:HA	1.80	0.62
2:B:112:ALA:HA	2:B:200:THR:HG21	1.82	0.61
2:B:140:TYR:HD2	2:B:141:PRO:CA	2.14	0.59
1:C:138:LEU:HD13	1:C:193:VAL:HG11	1.83	0.59
2:B:195:GLU:HG2	2:B:206:VAL:HG12	1.84	0.59
2:D:21:MET:HE1	2:D:86:TYR:CB	2.33	0.58
2:B:147:LYS:HB3	2:B:195:GLU:HB2	1.86	0.58
2:B:140:TYR:HD2	2:B:141:PRO:HA	1.65	0.56
1:C:180:SER:HB3	2:D:135:PHE:CE2	2.40	0.56
2:B:184:ASP:HB3	2:B:188:ARG:NH2	2.18	0.56
2:D:103:LYS:NZ	2:D:105:GLU:HG2	2.22	0.55
2:D:164:THR:HG22	2:D:165:ASP:O	2.07	0.55
2:B:113:PRO:HG3	2:B:144:ILE:HD11	1.89	0.55
2:D:184:ASP:O	2:D:188:ARG:HG3	2.07	0.53
1:C:188:TRP:CD1	1:C:193:VAL:HG12	2.44	0.53
1:C:155:ASN:HB2	1:C:159:LEU:HD23	1.91	0.52
2:B:4:MET:HE3	2:B:23:CYS:SG	2.50	0.52
2:B:140:TYR:HD2	2:B:141:PRO:N	2.08	0.52
2:B:108:ARG:HG3	2:B:140:TYR:CD1	2.47	0.50
2:B:193:THR:HG23	2:B:208:SER:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:89:GLN:HG3	2:B:98:PHE:CE1	2.46	0.50
2:D:54:ARG:HD3	2:D:62:PHE:O	2.12	0.49
2:D:8:PRO:HG3	2:D:11:LEU:HD13	1.95	0.48
1:C:61:GLN:HA	1:C:64:LYS:HD3	1.95	0.48
1:C:168:ALA:HB2	1:C:177:MET:HB3	1.95	0.47
2:D:30(E):GLN:HG2	2:D:30(E):GLN:O	2.15	0.46
2:D:190:ASN:O	2:D:210:ASN:HA	2.15	0.46
1:A:159:LEU:HD13	1:A:183:VAL:HG11	1.98	0.46
2:B:80:ALA:HA	2:B:106:LEU:CD2	2.45	0.46
1:A:126:PRO:HD3	1:A:138:LEU:HD23	1.98	0.46
1:A:169:LEU:HD11	2:B:162:SER:HB2	1.98	0.46
1:A:39:GLN:O	1:A:88:ALA:HB1	2.16	0.46
1:A:12:VAL:HG11	1:A:18:VAL:HB	1.97	0.45
1:C:154:TRP:CZ3	1:C:195:CYS:HB3	2.51	0.45
2:D:190:ASN:ND2	2:D:210:ASN:HB3	2.32	0.45
1:A:35:ASP:OD2	1:A:95:ASP:HB2	2.17	0.45
2:B:108:ARG:HG3	2:B:140:TYR:HD1	1.80	0.45
2:B:108:ARG:CD	2:B:140:TYR:HD1	2.30	0.45
1:A:119:PRO:HB3	1:A:145:TYR:HB3	1.99	0.44
2:D:103:LYS:HZ2	2:D:105:GLU:HG2	1.82	0.44
2:D:21:MET:O	2:D:72:THR:HA	2.17	0.44
1:A:131:THR:HG22	1:A:133:GLY:H	1.82	0.44
2:D:12:SER:O	2:D:107:LYS:HE2	2.17	0.44
1:A:2:VAL:HG13	1:A:27:TYR:CD1	2.53	0.44
1:A:7:PHE:CE1	1:A:23:LYS:HE2	2.53	0.44
2:B:80:ALA:HA	2:B:106:LEU:HD22	2.00	0.44
2:B:61:ARG:O	2:B:75:ILE:HA	2.17	0.43
2:D:4:MET:SD	2:D:25:SER:HB3	2.59	0.43
1:A:53:PRO:O	1:A:73:LYS:HD3	2.18	0.43
1:C:105:GLN:HA	2:D:43:PRO:HG3	2.00	0.42
2:B:108:ARG:HD3	2:B:109:ALA:O	2.19	0.42
2:B:136:LEU:HD12	2:B:136:LEU:N	2.35	0.42
1:C:103:TRP:CZ3	2:D:44:PRO:HG2	2.54	0.42
2:B:95:PRO:O	2:B:97:THR:HG23	2.19	0.42
2:B:142:LYS:HD2	2:B:173:TYR:CE1	2.55	0.42
1:C:12:VAL:HG11	1:C:18:VAL:HB	2.01	0.42
1:C:193:VAL:HG13	1:C:210:LEU:HB2	2.01	0.42
1:A:188:TRP:CG	1:A:189:PRO:HA	2.54	0.41
2:D:4:MET:HE3	2:D:23:CYS:SG	2.59	0.41
1:A:50:ASP:O	1:A:57:THR:HA	2.21	0.41
1:A:12:VAL:HG21	1:A:82(C):LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:122:TYR:HB2	1:C:141:LEU:HB3	2.03	0.41
1:C:124:LEU:HD22	2:D:133:VAL:HG11	2.03	0.41
2:D:195:GLU:HG2	2:D:206:VAL:HG12	2.03	0.41
2:B:115:VAL:HA	2:B:135:PHE:O	2.21	0.40
2:B:140:TYR:CD2	2:B:141:PRO:CA	2.94	0.40
2:D:210:ASN:O	2:D:213:GLU:HG3	2.21	0.40
1:A:171:GLN:HG2	2:D:187:GLU:OE2	2.21	0.40
2:B:13:VAL:HG11	2:B:19:VAL:CG1	2.52	0.40
1:C:188:TRP:CG	1:C:189:PRO:HA	2.57	0.40
2:B:116:SER:O	2:B:134:CYS:HA	2.22	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	218/226 (96%)	208 (95%)	10 (5%)	0	100	100
1	C	204/226 (90%)	196 (96%)	8 (4%)	0	100	100
2	B	218/220 (99%)	207 (95%)	11 (5%)	0	100	100
2	D	218/220 (99%)	212 (97%)	6 (3%)	0	100	100
All	All	858/892 (96%)	823 (96%)	35 (4%)	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	188/195 (96%)	183 (97%)	5 (3%)	40	60
1	C	182/195 (93%)	178 (98%)	4 (2%)	47	67
2	B	195/195 (100%)	192 (98%)	3 (2%)	60	77
2	D	195/195 (100%)	189 (97%)	6 (3%)	35	56
All	All	760/780 (97%)	742 (98%)	18 (2%)	44	64

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	25	SER
1	A	74	SER
1	A	87	THR
1	A	116	THR
1	A	180	SER
2	B	20	THR
2	B	22	SER
2	B	176	SER
1	C	10	GLU
1	C	112	SER
1	C	150	VAL
1	C	151	THR
2	D	12	SER
2	D	33	LEU
2	D	90	ASN
2	D	157	ASN
2	D	206	VAL
2	D	213	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	5	GLN
1	A	41	HIS
1	A	102	HIS
2	B	27	GLN
2	B	38	GLN
2	B	42	GLN
2	B	92	HIS

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Mol	Chain	Res	Type
2	B	145	ASN
1	C	5	GLN
1	C	164	HIS
2	D	30(E)	GLN
2	D	42	GLN
2	D	138	ASN
2	D	156	GLN
2	D	166	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

6 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	SO4	A	301	-	4,4,4	0.72	0	6,6,6	0.11	0
3	SO4	D	301	-	4,4,4	0.64	0	6,6,6	0.37	0
3	SO4	B	303	-	4,4,4	0.64	0	6,6,6	0.27	0
3	SO4	B	301	-	4,4,4	0.66	0	6,6,6	0.37	0
3	SO4	D	302	-	4,4,4	0.69	0	6,6,6	0.21	0
3	SO4	B	302	-	4,4,4	0.74	0	6,6,6	0.37	0

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 (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 ⓘ

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($\AA^2$)	Q<0.9
1	A	220/226 (97%)	0.85	24 (10%)	12	10	39, 56, 84, 108	0
1	C	210/226 (92%)	0.78	11 (5%)	34	31	43, 60, 76, 100	0
2	B	220/220 (100%)	0.88	26 (11%)	10	9	40, 57, 79, 103	0
2	D	220/220 (100%)	0.62	10 (4%)	39	36	40, 55, 71, 106	2 (0%)
All	All	870/892 (97%)	0.78	71 (8%)	19	17	39, 57, 79, 108	2 (0%)

All (71) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	216	ILE	5.5
1	A	132	THR	5.3
1	A	159	LEU	5.0
1	C	132	THR	5.0
1	C	159	LEU	4.6
1	A	128	CYS	4.6
1	A	156	SER	3.7
2	B	153	SER	3.6
2	D	30(D)	HIS	3.6
1	C	98	TYR	3.5
1	A	157	GLY	3.4
2	D	30(B)	SER	3.4
2	D	30(A)	ASN	3.3
2	B	214	CYS	3.2
2	B	204	PRO	3.1
1	A	129	GLY	3.1
2	B	152	GLY	3.0
2	D	30(C)	GLY	3.0
1	C	161	SER	2.9
1	A	148	GLU	2.9
1	A	131	THR	2.9

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Mol	Chain	Res	Type	RSRZ
1	C	2	VAL	2.8
2	B	145	ASN	2.8
1	A	56	SER	2.7
1	A	82(B)	SER	2.7
2	B	109	ALA	2.7
2	B	83	LEU	2.7
1	A	1	GLU	2.7
1	A	50	ASP	2.7
2	B	160	LEU	2.6
1	A	162	SER	2.6
1	C	162	SER	2.6
2	B	127	SER	2.5
2	D	76	SER	2.5
1	A	133	GLY	2.5
1	A	54	TYR	2.4
1	A	169	LEU	2.4
1	C	7	PHE	2.4
1	C	170	LEU	2.4
2	B	107	LYS	2.4
2	B	143	ASP	2.4
2	B	106	LEU	2.4
2	D	214	CYS	2.3
1	A	23	LYS	2.3
2	B	156	GLN	2.3
1	C	114	ALA	2.3
2	B	14	SER	2.3
2	B	13	VAL	2.3
2	B	158	GLY	2.3
2	D	30	LEU	2.2
2	D	212	ASN	2.2
2	B	197	THR	2.2
1	A	61	GLN	2.2
2	B	77	SER	2.2
2	B	148	TRP	2.2
2	B	141	PRO	2.2
2	D	58	VAL	2.2
2	B	202	THR	2.1
2	D	164	THR	2.1
1	A	29	PHE	2.1
2	B	17	GLU	2.1
1	C	127	GLY	2.1
1	A	155	ASN	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	55	ASP	2.1
2	B	146	VAL	2.1
1	A	83	THR	2.1
1	A	158	SER	2.0
2	B	157	ASN	2.0
1	A	15	GLY	2.0
2	B	205	ILE	2.0
2	B	79	GLN	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 ⓘ

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
3	SO4	A	301	5/5	0.65	0.12	78,87,101,130	0
3	SO4	D	302	5/5	0.79	0.12	76,80,94,137	0
3	SO4	B	301	5/5	0.86	0.12	77,77,85,87	0
3	SO4	B	302	5/5	0.87	0.12	61,63,78,84	0
3	SO4	B	303	5/5	0.89	0.08	77,83,88,90	0
3	SO4	D	301	5/5	0.91	0.08	78,79,85,87	0

6.5 Other polymers ⓘ

There are no such residues in this entry.