Full wwPDB X-ray Structure Validation Report (i)

Oct 29, 2024 – 06:13 PM EDT

PDB ID	:	4G7V
Title	:	Crystal structure of voltage sensing domain of Ci-VSP with fragment antibody (R217E, 2.5 A)
Authors	:	Li, Q.
Deposited on	:	2012-07-20
Resolution	:	2.50 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.50 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	Percentile Ranks	Value
Rfree		0.246
Clashscore		7
Ramachandran outliers		0.4%
Sidechain outliers		1.0%
RSRZ outliers		9.1%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
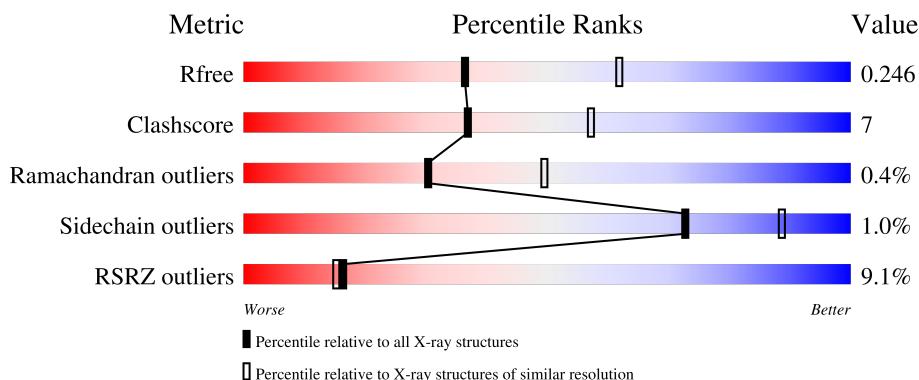
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	164625	5504 (2.50-2.50)
Clashscore	180529	6282 (2.50-2.50)
Ramachandran outliers	177936	6191 (2.50-2.50)
Sidechain outliers	177891	6193 (2.50-2.50)
RSRZ outliers	164620	5504 (2.50-2.50)

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	H	219	3% / 91% / 7% ·
2	L	211	% / 91% / 9%
3	S	185	23% / 54% / 17% · / 26%
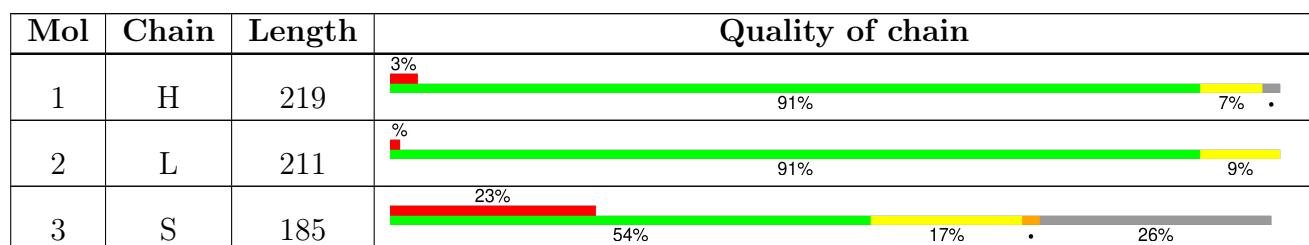
The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
6	SIN	L	302	-	-	X	-

2   Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 4656 atoms, of which 97 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 fragment antibody heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	H	215	Total 1599	C 1010	N 264	O 320	S 5	0	0	0

- Molecule 2 is a protein called fragment antibody light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	L	211	Total 1626	C 1025	N 269	O 327	S 5	0	0	0

- Molecule 3 is a protein called Voltage-sensor containing phosphatase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	S	136	Total 1080	C 717	N 173	O 185	S 5	0	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S	79	MET	-	expression tag	UNP Q4W8A1
S	80	ARG	-	expression tag	UNP Q4W8A1
S	81	GLY	-	expression tag	UNP Q4W8A1
S	82	SER	-	expression tag	UNP Q4W8A1
S	83	HIS	-	expression tag	UNP Q4W8A1
S	84	HIS	-	expression tag	UNP Q4W8A1
S	85	HIS	-	expression tag	UNP Q4W8A1
S	86	HIS	-	expression tag	UNP Q4W8A1
S	87	HIS	-	expression tag	UNP Q4W8A1
S	88	HIS	-	expression tag	UNP Q4W8A1
S	217	GLU	ARG	engineered mutation	UNP Q4W8A1
S	261	LYS	-	expression tag	UNP Q4W8A1
S	262	LEU	-	expression tag	UNP Q4W8A1
S	263	ASN	-	expression tag	UNP Q4W8A1

- Molecule 4 is LAURYL DIMETHYLAMINE-N-OXIDE (three-letter code: LDA) (formula: $C_{14}H_{31}NO$).
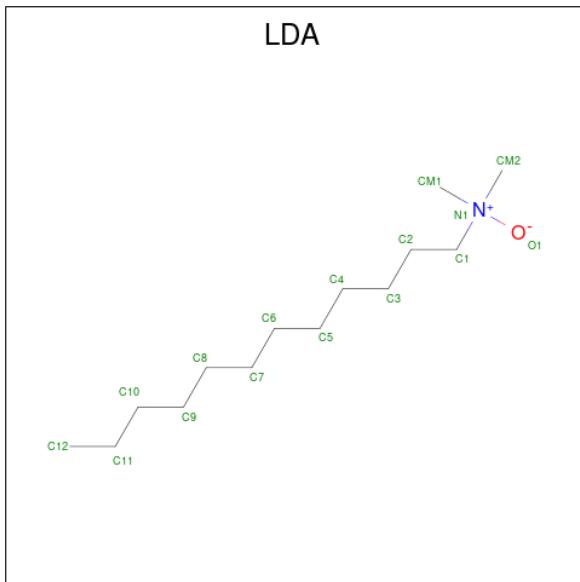
LDA

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	H	1	Total	C	H	N	O	0	0
			47	14	31	1	1		
4	L	1	Total	C	H	N	O	0	0
			47	14	31	1	1		
4	S	1	Total	C	H	N	O	0	0
			47	14	31	1	1		

- Molecule 5 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	L	1	Total	Cl	0	0
			1	1		

- Molecule 6 is SUCCINIC ACID (three-letter code: SIN) (formula: $C_4H_6O_4$).

SIN

O3
O

OH O4
C4

C2

C3

C1
O2 HO

O
O1
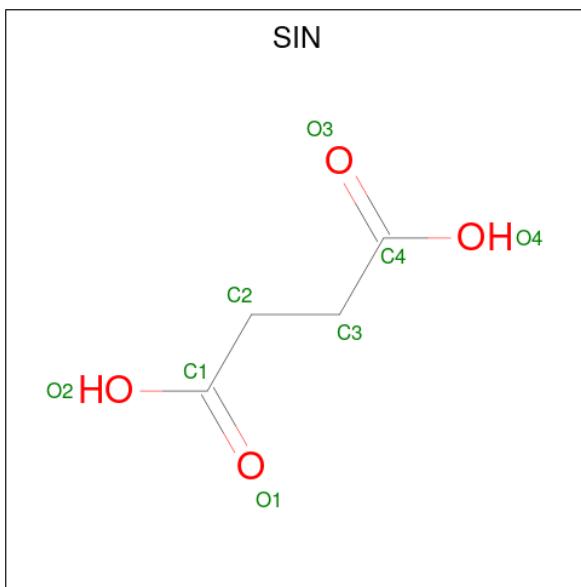
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
6	L	1	Total C H O				0	0
			12 4 4 4					

- Molecule 7 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	H	91	Total O		0	0
			91 91			
7	L	98	Total O		0	0
			98 98			
7	S	8	Total O		0	0
			8 8			

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: fragment antibody heavy chain
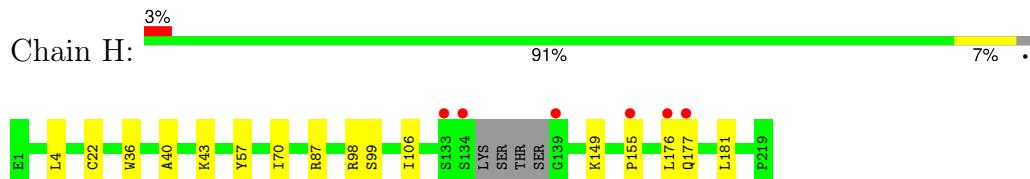
Chain H:

• Molecule 2: fragment antibody light chain

Chain L:
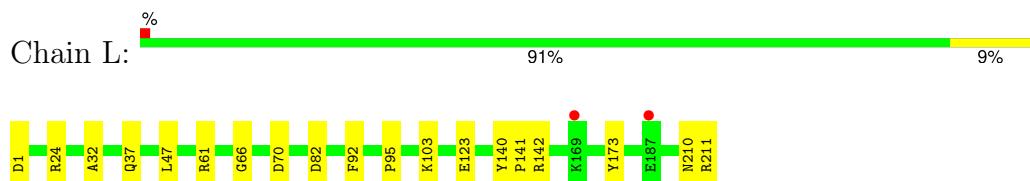
• Molecule 3: Voltage-sensor containing phosphatase

Chain S:
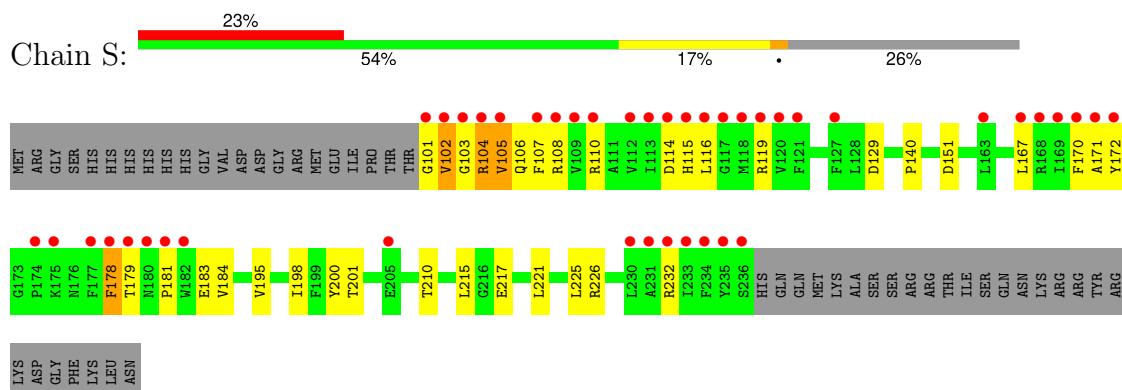
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 65 2 2	Depositor
Cell constants a, b, c, α, β, γ	120.25Å 120.25Å 229.88Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	37.24 – 2.50 37.24 – 2.50	Depositor EDS
% Data completeness (in resolution range)	99.4 (37.24-2.50) 92.5 (37.24-2.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.17	Depositor
$< I/\sigma(I) >$ [1]	1.59 (at 2.51Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.7.3_928)	Depositor
R, R_{free}	0.201 , 0.240 0.215 , 0.246	Depositor DCC
R_{free} test set	1725 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å^2)	37.7	Xtriage
Anisotropy	0.281	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 36.9	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	4656	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.36% 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: SIN, CL, LDA

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	H	0.44	0/1639	0.57	0/2236
2	L	0.47	0/1664	0.58	0/2262
3	S	0.35	0/1103	0.48	0/1495
All	All	0.43	0/4406	0.55	0/5993

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	H	1599	0	1547	9	1
2	L	1626	0	1581	22	0
3	S	1080	0	1110	30	1
4	H	16	31	31	1	0
4	L	16	31	31	2	0
4	S	16	31	31	1	0
5	L	1	0	0	1	0
6	L	8	4	4	9	0
7	H	91	0	0	1	0
7	L	98	0	0	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	S	8	0	0	0	0
All	All	4559	97	4335	61	1

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 7.

All (61) 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:L:66:GLY:HA3	6:L:302:SIN:O2	1.44	1.18
2:L:66:GLY:HA3	6:L:302:SIN:C1	1.79	1.10
2:L:66:GLY:CA	6:L:302:SIN:O2	2.02	1.08
3:S:102:VAL:HG12	3:S:103:GLY:N	1.74	1.01
3:S:101:GLY:O	3:S:102:VAL:HB	1.67	0.93
3:S:102:VAL:HG12	3:S:103:GLY:H	1.35	0.87
3:S:210:THR:O	4:S:301:LDA:H82	1.74	0.87
2:L:66:GLY:HA3	6:L:302:SIN:O1	1.79	0.82
3:S:102:VAL:CG1	3:S:103:GLY:N	2.41	0.82
2:L:66:GLY:CA	6:L:302:SIN:C1	2.60	0.74
3:S:104:ARG:O	3:S:107:PHE:HB3	1.95	0.67
3:S:221:LEU:C	3:S:221:LEU:HD13	2.16	0.65
3:S:167:LEU:O	3:S:171:ALA:N	2.31	0.63
2:L:66:GLY:N	6:L:302:SIN:O2	2.32	0.62
3:S:151:ASP:HB3	3:S:201:THR:HG22	1.84	0.60
1:H:176:LEU:O	1:H:177:GLN:HB2	2.00	0.59
3:S:110:ARG:NH1	3:S:172:TYR:OH	2.35	0.58
4:H:301:LDA:H52	3:S:217:GLU:HB3	1.84	0.58
3:S:179:THR:O	3:S:181:PRO:HD3	2.04	0.57
2:L:66:GLY:CA	6:L:302:SIN:O1	2.56	0.53
2:L:32:ALA:HB3	2:L:92:PHE:HB2	1.90	0.53
2:L:211:ARG:NH2	7:L:407:HOH:O	2.37	0.53
2:L:61:ARG:HB3	5:L:301:CL:CL	2.47	0.52
1:H:36:TRP:HD1	1:H:70:ILE:HD12	1.75	0.51
1:H:40:ALA:HB3	1:H:43:LYS:HD2	1.93	0.50
2:L:61:ARG:NH2	7:L:450:HOH:O	2.37	0.49
3:S:129:ASP:OD1	3:S:226:ARG:HD3	2.13	0.49
1:H:176:LEU:O	1:H:181:LEU:O	2.30	0.48
2:L:24:ARG:NH1	2:L:70:ASP:OD2	2.46	0.48
3:S:106:GLN:HG3	3:S:170:PHE:O	2.14	0.48
2:L:37:GLN:HB2	2:L:47:LEU:HD11	1.96	0.47
3:S:183:GLU:OE2	3:S:232:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:S:178:PHE:O	3:S:184:VAL:CG2	2.63	0.47
3:S:110:ARG:HD3	3:S:172:TYR:HE1	1.79	0.46
4:L:303:LDA:H42	3:S:200:TYR:HA	1.97	0.46
3:S:104:ARG:N	3:S:104:ARG:HD2	2.30	0.46
2:L:142:ARG:HD2	2:L:173:TYR:CE2	2.51	0.46
1:H:99:SER:HB3	1:H:106:ILE:HA	1.98	0.46
2:L:1:ASP:N	2:L:95:PRO:HD2	2.31	0.45
3:S:178:PHE:O	3:S:184:VAL:HG21	2.16	0.45
3:S:101:GLY:O	3:S:102:VAL:CB	2.47	0.45
2:L:61:ARG:NH1	2:L:82:ASP:OD1	2.50	0.45
2:L:103:LYS:HE3	2:L:103:LYS:HB2	1.67	0.44
2:L:210:ASN:O	2:L:211:ARG:HB2	2.17	0.44
3:S:195:VAL:O	3:S:198:ILE:HG22	2.17	0.44
3:S:221:LEU:C	3:S:221:LEU:CD1	2.84	0.44
2:L:140:TYR:CG	2:L:141:PRO:HA	2.53	0.43
1:H:176:LEU:O	1:H:177:GLN:CB	2.66	0.43
2:L:66:GLY:C	6:L:302:SIN:O2	2.55	0.43
2:L:66:GLY:C	6:L:302:SIN:C1	2.87	0.43
3:S:116:LEU:HD12	3:S:119:ARG:HD2	1.99	0.43
4:L:303:LDA:H71	3:S:215:LEU:HD22	2.01	0.42
2:L:123:GLU:OE1	2:L:123:GLU:N	2.33	0.42
3:S:105:VAL:CG1	3:S:106:GLN:N	2.82	0.42
1:H:87:ARG:NH1	7:H:475:HOH:O	2.51	0.42
3:S:221:LEU:HD13	3:S:221:LEU:O	2.20	0.41
3:S:105:VAL:C	3:S:107:PHE:H	2.24	0.41
1:H:149:LYS:HE3	7:L:471:HOH:O	2.22	0.40
3:S:114:ASP:OD1	3:S:115:HIS:N	2.54	0.40
3:S:221:LEU:HD11	3:S:225:LEU:HD11	2.03	0.40
1:H:4:LEU:HD22	1:H:22:CYS:SG	2.61	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:57:TYR:OH	3:S:140:PRO:O[12_544]	2.16	0.04

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	H	211/219 (96%)	205 (97%)	5 (2%)	1 (0%)	25	44
2	L	209/211 (99%)	198 (95%)	11 (5%)	0	100	100
3	S	134/185 (72%)	125 (93%)	8 (6%)	1 (1%)	19	35
All	All	554/615 (90%)	528 (95%)	24 (4%)	2 (0%)	30	49

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	S	102	VAL
1	H	155	PRO

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	H	178/182 (98%)	177 (99%)	1 (1%)	84	94
2	L	185/185 (100%)	185 (100%)	0	100	100
3	S	116/160 (72%)	112 (97%)	4 (3%)	32	58
All	All	479/527 (91%)	474 (99%)	5 (1%)	73	88

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	H	98	ARG

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Mol	Chain	Res	Type
3	S	104	ARG
3	S	105	VAL
3	S	108	ARG
3	S	178	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 5 ligands modelled in this entry, 1 is monoatomic - leaving 4 for Mogul analysis.

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	$\#|Z| > 2$
6	SIN	L	302	-	7,7,7	1.05	0	8,8,8	1.27	0
4	LDA	H	301	-	13,15,15	2.22	2 (15%)	14,17,17	0.49	0
4	LDA	S	301	-	13,15,15	2.21	2 (15%)	14,17,17	0.49	0
4	LDA	L	303	-	13,15,15	2.23	2 (15%)	14,17,17	0.52	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	SIN	L	302	-	-	0/5/5/5	-
4	LDA	H	301	-	-	9/13/13/13	-
4	LDA	S	301	-	-	6/13/13/13	-
4	LDA	L	303	-	-	4/13/13/13	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	L	303	LDA	O1-N1	-6.87	1.25	1.42
4	H	301	LDA	O1-N1	-6.86	1.25	1.42
4	S	301	LDA	O1-N1	-6.85	1.25	1.42
4	L	303	LDA	C1-N1	-4.15	1.47	1.51
4	H	301	LDA	C1-N1	-4.01	1.47	1.51
4	S	301	LDA	C1-N1	-3.96	1.47	1.51

There are no bond angle outliers.

There are no chirality outliers.

All (19) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	H	301	LDA	C2-C1-N1-CM2
4	H	301	LDA	C4-C5-C6-C7
4	S	301	LDA	C2-C3-C4-C5
4	H	301	LDA	C2-C3-C4-C5
4	S	301	LDA	C4-C5-C6-C7
4	S	301	LDA	C9-C10-C11-C12
4	H	301	LDA	C9-C10-C11-C12
4	S	301	LDA	C5-C6-C7-C8
4	L	303	LDA	C3-C4-C5-C6
4	H	301	LDA	C2-C1-N1-CM1
4	H	301	LDA	C1-C2-C3-C4
4	H	301	LDA	C2-C1-N1-O1
4	S	301	LDA	C3-C4-C5-C6
4	H	301	LDA	C7-C8-C9-C10
4	L	303	LDA	C6-C7-C8-C9
4	L	303	LDA	C11-C10-C9-C8
4	L	303	LDA	C4-C5-C6-C7
4	S	301	LDA	C11-C10-C9-C8

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Mol	Chain	Res	Type	Atoms
4	H	301	LDA	C5-C6-C7-C8

There are no ring outliers.

4 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	L	302	SIN	9	0
4	H	301	LDA	1	0
4	S	301	LDA	1	0
4	L	303	LDA	2	0

5.7 Other polymers ⓘ

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 ⓘ

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	H	215/219 (98%)	-0.17	6 (2%)	55	51	25, 39, 58, 88	0
2	L	211/211 (100%)	-0.27	2 (0%)	81	78	24, 36, 56, 76	0
3	S	136/185 (73%)	1.45	43 (31%)	1	1	24, 61, 121, 131	0
All	All	562/615 (91%)	0.18	51 (9%)	16	15	24, 40, 104, 131	0

All (51) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	S	104	ARG	8.4
3	S	101	GLY	7.9
3	S	108	ARG	6.4
3	S	234	PHE	6.1
3	S	233	ILE	6.0
3	S	178	PHE	5.8
3	S	102	VAL	5.4
3	S	113	ILE	5.2
3	S	103	GLY	5.2
3	S	107	PHE	4.9
3	S	116	LEU	4.5
3	S	105	VAL	4.5
3	S	235	TYR	4.4
3	S	110	ARG	4.3
3	S	112	VAL	4.1
3	S	168	ARG	3.9
3	S	177	PHE	3.8
3	S	114	ASP	3.8
1	H	139	GLY	3.8
3	S	231	ALA	3.5
3	S	174	PRO	3.3
3	S	179	THR	3.3
2	L	169	LYS	3.2

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Mol	Chain	Res	Type	RSRZ
3	S	236	SER	3.2
3	S	172	TYR	3.1
1	H	134	SER	3.0
3	S	127	PHE	3.0
3	S	120	VAL	2.9
3	S	117	GLY	2.9
3	S	175	LYS	2.9
3	S	232	ARG	2.9
3	S	182	TRP	2.8
3	S	119	ARG	2.7
3	S	180	ASN	2.7
2	L	187	GLU	2.6
1	H	133	SER	2.6
3	S	170	PHE	2.6
3	S	181	PRO	2.5
3	S	171	ALA	2.5
3	S	109	VAL	2.4
1	H	176	LEU	2.4
1	H	155	PRO	2.3
1	H	177	GLN	2.3
3	S	121	PHE	2.3
3	S	230	LEU	2.2
3	S	118	MET	2.2
3	S	115	HIS	2.2
3	S	205	GLU	2.1
3	S	167	LEU	2.1
3	S	163	LEU	2.0
3	S	169	ILE	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 monosaccharides 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, 95th 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
4	LDA	H	301	16/16	0.66	0.35	20,20,20,20	0
4	LDA	S	301	16/16	0.74	0.37	20,20,20,20	0
6	SIN	L	302	8/8	0.84	0.25	20,20,20,20	0
4	LDA	L	303	16/16	0.85	0.28	20,20,20,20	0
5	CL	L	301	1/1	1.00	0.06	31,31,31,31	1

6.5   Other polymers ⓘ

There are no such residues in this entry.