Full wwPDB X-ray Structure Validation Report ⓘ

Nov 23, 2023 – 12:17 AM JST

PDB ID	:	7YL4
Title	:	Cell surface protein YwfG protein (apo form)
Authors	:	Tsuchiya, W.; Fujimoto, Z.; Suzuki, C.
Deposited on	:	2022-07-25
Resolution	:	2.50 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
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)	:	2.36

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.
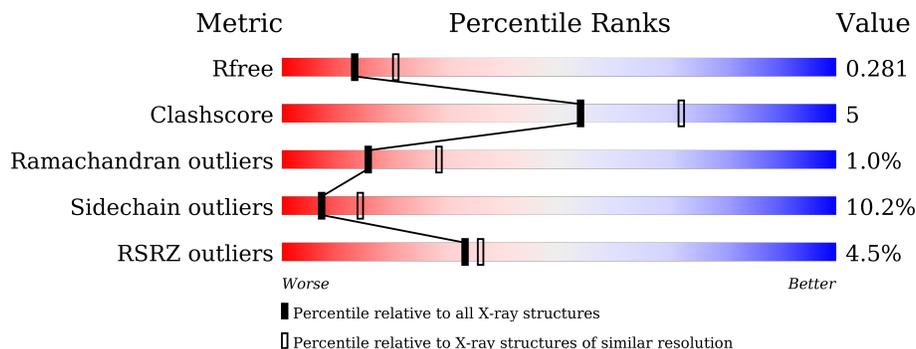
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	A	505	4% 70% 22% · 7%
1	B	505	3% 65% 13% · 21%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 6673 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 GRAM_POS_ANCHORING domain-containing protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	472	Total 3552	C 2207	N 590	O 750	S 5	0	0	0
1	B	397	Total 2975	C 1849	N 494	O 627	S 5	0	0	0

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	7	MET	-	initiating methionine	UNP S6FKX6
A	8	GLY	-	expression tag	UNP S6FKX6
A	9	SER	-	expression tag	UNP S6FKX6
A	10	SER	-	expression tag	UNP S6FKX6
A	11	HIS	-	expression tag	UNP S6FKX6
A	12	HIS	-	expression tag	UNP S6FKX6
A	13	HIS	-	expression tag	UNP S6FKX6
A	14	HIS	-	expression tag	UNP S6FKX6
A	15	HIS	-	expression tag	UNP S6FKX6
A	16	HIS	-	expression tag	UNP S6FKX6
A	17	SER	-	expression tag	UNP S6FKX6
A	18	SER	-	expression tag	UNP S6FKX6
A	19	GLY	-	expression tag	UNP S6FKX6
A	20	LEU	-	expression tag	UNP S6FKX6
A	21	VAL	-	expression tag	UNP S6FKX6
A	22	PRO	-	expression tag	UNP S6FKX6
A	23	ARG	-	expression tag	UNP S6FKX6
A	24	GLY	-	expression tag	UNP S6FKX6
A	25	SER	-	expression tag	UNP S6FKX6
A	26	HIS	-	expression tag	UNP S6FKX6
A	27	MET	-	expression tag	UNP S6FKX6
B	7	MET	-	initiating methionine	UNP S6FKX6
B	8	GLY	-	expression tag	UNP S6FKX6
B	9	SER	-	expression tag	UNP S6FKX6
B	10	SER	-	expression tag	UNP S6FKX6

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Chain	Residue	Modelled	Actual	Comment	Reference
B	11	HIS	-	expression tag	UNP S6FKX6
B	12	HIS	-	expression tag	UNP S6FKX6
B	13	HIS	-	expression tag	UNP S6FKX6
B	14	HIS	-	expression tag	UNP S6FKX6
B	15	HIS	-	expression tag	UNP S6FKX6
B	16	HIS	-	expression tag	UNP S6FKX6
B	17	SER	-	expression tag	UNP S6FKX6
B	18	SER	-	expression tag	UNP S6FKX6
B	19	GLY	-	expression tag	UNP S6FKX6
B	20	LEU	-	expression tag	UNP S6FKX6
B	21	VAL	-	expression tag	UNP S6FKX6
B	22	PRO	-	expression tag	UNP S6FKX6
B	23	ARG	-	expression tag	UNP S6FKX6
B	24	GLY	-	expression tag	UNP S6FKX6
B	25	SER	-	expression tag	UNP S6FKX6
B	26	HIS	-	expression tag	UNP S6FKX6
B	27	MET	-	expression tag	UNP S6FKX6

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Ca	0	0
			1	1		
2	B	1	Total	Ca	0	0
			1	1		

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

SO4

O1

O

O3 O⁻ —— S —— O⁻ O4

S

O

O2
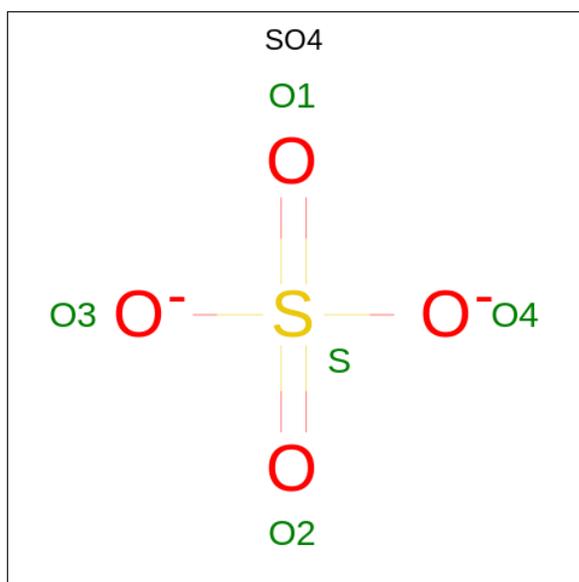
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	A	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0
3	B	1	Total 5	O 4	S 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	13	Total 13	O 13	0	0
4	B	61	Total 61	O 61	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: GRAM_POS_ANCHORING domain-containing protein

Chain A:

• Molecule 1: GRAM_POS_ANCHORING domain-containing protein

Chain B:
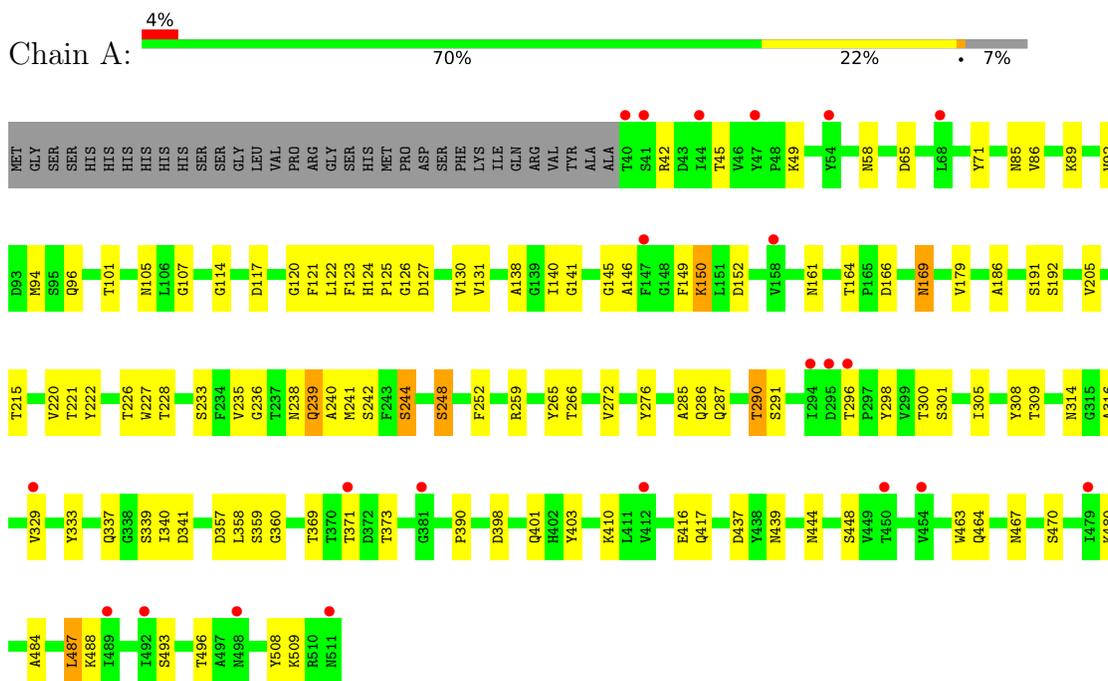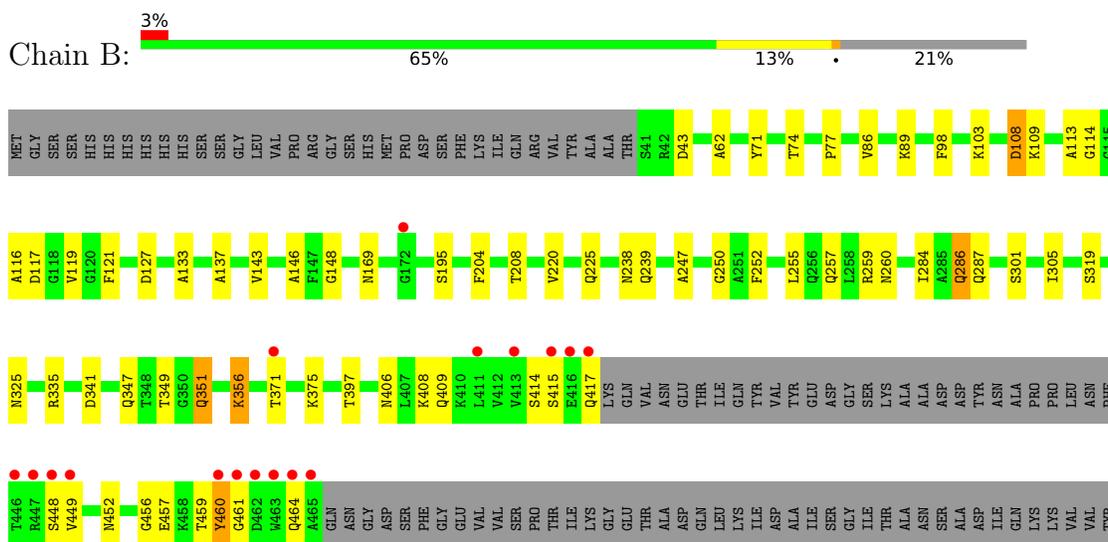
LYS ARG ASN

4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	43.22Å 272.93Å 320.33Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.53 – 2.50 45.49 – 2.50	Depositor EDS
% Data completeness (in resolution range)	100.0 (45.53-2.50) 100.0 (45.49-2.50)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.24 (at 2.51Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.245 , 0.280 0.252 , 0.281	Depositor DCC
R_{free} test set	3224 reflections (4.82%)	wwPDB-VP
Wilson B-factor (Å^2)	53.5	Xtriage
Anisotropy	0.164	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 46.0	EDS
L-test for twinning[2]	$< |L| > = 0.36, < L^2 > = 0.18$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	6673	wwPDB-VP
Average B, all atoms (Å^2)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.16% 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 ⓘ

5.1 Standard geometry ⓘ

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

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	0.82	1/3620 (0.0%)	0.96	0/4924
1	B	0.88	0/3033	0.99	1/4127 (0.0%)
All	All	0.84	1/6653 (0.0%)	0.97	1/9051 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	416	GLU	CD-OE2	6.45	1.32	1.25

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	335	ARG	NE-CZ-NH1	6.55	123.58	120.30

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	3552	0	3355	41	0
1	B	2975	0	2795	27	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	30	0	0	0	0
3	B	40	0	0	3	0
4	A	13	0	0	1	0
4	B	61	0	0	1	0
All	All	6673	0	6150	68	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 5.

All (68) 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:94:MET:HG3	1:A:241:MET:HG3	1.81	0.61
1:B:286:GLN:N	3:B:606:SO4:O3	2.34	0.61
1:A:390:PRO:HD3	1:A:403:TYR:CE1	2.37	0.59
1:A:117:ASP:HB2	1:A:248:SER:O	2.02	0.59
1:B:74:THR:HA	1:B:257:GLN:HG2	1.88	0.56
1:B:127:ASP:HA	1:B:325:ASN:OD1	2.06	0.55
1:A:444:ASN:HB2	1:A:467:ASN:OD1	2.08	0.54
1:A:308:TYR:HB3	1:A:333:TYR:HB3	1.89	0.54
1:A:122:LEU:HD13	1:A:140:ILE:HA	1.91	0.53
1:A:96:GLN:HG3	1:A:266:THR:HG21	1.89	0.53
1:A:125:PRO:HD3	1:A:145:GLY:O	2.09	0.53
1:A:150:LYS:HD2	1:A:152:ASP:HB2	1.89	0.53
1:B:452:ASN:O	1:B:456:GLY:HA2	2.08	0.52
1:A:127:ASP:HB3	1:A:130:VAL:HG23	1.91	0.52
1:A:114:GLY:HA2	1:A:252:PHE:CD2	2.44	0.52
1:B:103:LYS:HB3	1:B:204:PHE:HB3	1.92	0.52
1:A:205:VAL:HB	1:A:222:TYR:CE1	2.45	0.51
1:A:272:VAL:HG21	1:A:298:TYR:CG	2.45	0.51
1:B:133:ALA:O	1:B:137:ALA:HB3	2.10	0.51
1:B:349:THR:HG22	1:B:351:GLN:HB2	1.92	0.51
1:A:114:GLY:HA2	1:A:252:PHE:CG	2.47	0.50
1:B:409:GLN:HB3	1:B:452:ASN:HD21	1.77	0.49
1:A:221:THR:HG22	1:A:226:THR:HG23	1.95	0.49
1:A:309:THR:HA	4:A:712:HOH:O	2.12	0.49
1:A:316:ALA:HB3	1:A:329:VAL:HG22	1.94	0.49
1:B:238:ASN:O	1:B:239:GLN:HB3	2.11	0.49
1:A:120:GLY:HA3	1:A:138:ALA:O	2.13	0.48
1:A:124:HIS:O	1:A:242:SER:N	2.40	0.48
1:A:149:PHE:CD2	1:A:220:VAL:HG11	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:250:GLY:N	3:B:609:SO4:O2	2.43	0.47
1:B:448:SER:O	1:B:461:GLY:N	2.47	0.47
1:B:397:THR:HB	3:B:608:SO4:O1	2.16	0.46
1:B:341:ASP:HA	1:B:356:LYS:O	2.16	0.46
1:A:122:LEU:HB3	1:A:244:SER:OG	2.16	0.46
1:A:152:ASP:OD2	1:A:166:ASP:OD2	2.33	0.46
1:A:121:PHE:O	1:A:140:ILE:HD11	2.16	0.46
1:A:141:GLY:CA	1:A:186:ALA:HB2	2.45	0.46
1:B:449:VAL:HA	1:B:460:TYR:HA	1.97	0.46
1:A:340:ILE:HG12	1:A:401:GLN:HB2	1.97	0.45
1:B:108:ASP:OD1	1:B:109:LYS:HG3	2.16	0.45
1:B:116:ALA:HB1	1:B:117:ASP:HA	1.98	0.45
1:B:287:GLN:HB2	4:B:746:HOH:O	2.16	0.45
1:B:89:LYS:HD3	1:B:89:LYS:HA	1.83	0.45
1:A:105:ASN:OD1	1:A:105:ASN:C	2.55	0.45
1:A:58:ASN:HB2	1:A:85:ASN:OD1	2.17	0.44
1:A:337:GLN:HA	1:A:360:GLY:O	2.16	0.44
1:B:71:TYR:O	1:B:259:ARG:HA	2.18	0.44
1:B:114:GLY:HA2	1:B:252:PHE:CG	2.52	0.44
1:B:143:VAL:HB	1:B:146:ALA:HB2	2.00	0.43
1:A:92:VAL:O	1:A:240:ALA:HA	2.18	0.43
1:A:290:THR:OG1	1:A:291:SER:N	2.51	0.43
1:B:119:VAL:HG22	1:B:247:ALA:HB2	2.00	0.43
1:A:149:PHE:CE2	1:A:220:VAL:HG11	2.54	0.43
1:A:369:THR:HG22	1:A:371:THR:H	1.82	0.43
1:B:121:PHE:O	1:B:148:GLY:HA3	2.19	0.43
1:B:349:THR:CG2	1:B:351:GLN:HB2	2.49	0.43
1:A:192:SER:O	1:A:227:TRP:CD1	2.72	0.42
1:B:284:ILE:HG13	1:B:305:ILE:HD13	2.01	0.42
1:A:71:TYR:O	1:A:259:ARG:HA	2.19	0.42
1:A:276:TYR:HB2	1:A:285:ALA:HB3	2.02	0.42
1:A:470:SER:HA	1:A:493:SER:HA	2.02	0.41
1:A:484:ALA:HB2	1:A:508:TYR:CE2	2.55	0.41
1:B:208:THR:O	1:B:220:VAL:HA	2.20	0.41
1:A:123:PHE:O	1:A:146:ALA:HA	2.21	0.41
1:B:77:PRO:HA	1:B:255:LEU:HD12	2.03	0.40
1:A:105:ASN:OD1	1:A:107:GLY:N	2.51	0.40
1:A:220:VAL:O	1:A:227:TRP:HE3	2.04	0.40
1:A:487:LEU:HD12	1:A:487:LEU:HA	1.81	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	470/505 (93%)	434 (92%)	30 (6%)	6 (1%)	12	21
1	B	393/505 (78%)	373 (95%)	17 (4%)	3 (1%)	19	35
All	All	863/1010 (85%)	807 (94%)	47 (5%)	9 (1%)	15	28

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	463	TRP
1	B	113	ALA
1	A	236	GLY
1	A	239	GLN
1	A	169	ASN
1	B	62	ALA
1	B	169	ASN
1	A	235	VAL
1	A	126	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	383/411 (93%)	335 (88%)	48 (12%)	4	8
1	B	320/411 (78%)	296 (92%)	24 (8%)	13	26
All	All	703/822 (86%)	631 (90%)	72 (10%)	7	14

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	42	ARG
1	A	45	THR
1	A	49	LYS
1	A	65	ASP
1	A	86	VAL
1	A	89	LYS
1	A	101	THR
1	A	131	VAL
1	A	150	LYS
1	A	161	ASN
1	A	164	THR
1	A	169	ASN
1	A	179	VAL
1	A	191	SER
1	A	215	THR
1	A	228	THR
1	A	233	SER
1	A	238	ASN
1	A	239	GLN
1	A	244	SER
1	A	248	SER
1	A	265	TYR
1	A	286	GLN
1	A	287	GLN
1	A	290	THR
1	A	296	THR
1	A	300	THR
1	A	301	SER
1	A	305	ILE
1	A	314	ASN
1	A	339	SER
1	A	341	ASP
1	A	357	ASP
1	A	358	LEU
1	A	359	SER
1	A	373	THR
1	A	398	ASP
1	A	410	LYS
1	A	417	GLN
1	A	437	ASP
1	A	439	ASN
1	A	448	SER

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Mol	Chain	Res	Type
1	A	464	GLN
1	A	480	LYS
1	A	487	LEU
1	A	488	LYS
1	A	496	THR
1	A	509	LYS
1	B	43	ASP
1	B	86	VAL
1	B	98	PHE
1	B	108	ASP
1	B	195	SER
1	B	225	GLN
1	B	260	ASN
1	B	286	GLN
1	B	301	SER
1	B	319	SER
1	B	347	GLN
1	B	351	GLN
1	B	356	LYS
1	B	371	THR
1	B	375	LYS
1	B	406	ASN
1	B	408	LYS
1	B	414	SER
1	B	415	SER
1	B	417	GLN
1	B	457	GLU
1	B	459	THR
1	B	460	TYR
1	B	464	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	58	ASN
1	A	269	GLN
1	A	409	GLN
1	B	201	ASN
1	B	225	GLN
1	B	286	GLN
1	B	321	ASN
1	B	406	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 ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 16 ligands modelled in this entry, 2 are monoatomic - leaving 14 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	#$|Z| > 2$
3	SO4	B	609	-	4,4,4	0.34	0	6,6,6	0.09	0
3	SO4	A	605	-	4,4,4	0.29	0	6,6,6	0.19	0
3	SO4	A	607	-	4,4,4	0.27	0	6,6,6	0.09	0
3	SO4	B	603	-	4,4,4	0.33	0	6,6,6	0.20	0
3	SO4	B	604	-	4,4,4	0.38	0	6,6,6	0.17	0
3	SO4	B	608	-	4,4,4	0.33	0	6,6,6	0.11	0
3	SO4	A	604	-	4,4,4	0.34	0	6,6,6	0.16	0
3	SO4	B	602	-	4,4,4	0.48	0	6,6,6	0.29	0
3	SO4	B	607	-	4,4,4	0.28	0	6,6,6	0.07	0
3	SO4	B	606	-	4,4,4	0.30	0	6,6,6	0.17	0
3	SO4	B	605	-	4,4,4	0.34	0	6,6,6	0.06	0
3	SO4	A	606	-	4,4,4	0.21	0	6,6,6	0.21	0
3	SO4	A	603	-	4,4,4	0.36	0	6,6,6	0.25	0
3	SO4	A	602	-	4,4,4	0.35	0	6,6,6	0.22	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.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	609	SO4	1	0
3	B	608	SO4	1	0
3	B	606	SO4	1	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	A	472/505 (93%)	0.37	22 (4%)	31	33	45, 78, 104, 120	0
1	B	397/505 (78%)	0.28	17 (4%)	35	38	32, 52, 120, 153	0
All	All	869/1010 (86%)	0.33	39 (4%)	33	36	32, 69, 107, 153	0

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	465	ALA	11.0
1	B	449	VAL	7.4
1	B	415	SER	6.9
1	B	462	ASP	6.7
1	B	460	TYR	6.5
1	B	463	TRP	6.5
1	B	417	GLN	6.4
1	B	464	GLN	6.2
1	B	446	THR	5.9
1	B	413	VAL	4.6
1	B	448	SER	3.9
1	A	479	ILE	3.8
1	A	68	LEU	3.7
1	A	47	TYR	3.5
1	A	41	SER	3.4
1	B	416	GLU	3.2
1	A	489	ILE	3.0
1	A	294	ILE	2.9
1	A	450	THR	2.8
1	B	461	GLY	2.8
1	A	498	ASN	2.7
1	A	295	ASP	2.5
1	A	54	TYR	2.5
1	B	172	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
1	B	447	ARG	2.4
1	A	412	VAL	2.4
1	A	492	ILE	2.3
1	A	44	ILE	2.2
1	A	511	ASN	2.2
1	A	371	THR	2.2
1	A	381	GLY	2.2
1	A	329	VAL	2.1
1	A	296	THR	2.1
1	A	40	THR	2.1
1	A	147	PHE	2.1
1	B	411	LEU	2.1
1	A	454	VAL	2.0
1	B	371	THR	2.0
1	A	158	VAL	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
3	SO4	B	608	5/5	0.78	0.17	104,115,137,154	0
3	SO4	A	604	5/5	0.82	0.29	138,143,165,172	0
3	SO4	B	609	5/5	0.85	0.27	119,122,140,143	0
3	SO4	B	607	5/5	0.87	0.16	98,100,128,133	0
3	SO4	A	605	5/5	0.92	0.09	98,103,107,119	0
3	SO4	A	602	5/5	0.92	0.15	66,77,120,120	0
2	CA	B	601	1/1	0.93	0.11	71,71,71,71	0
3	SO4	A	607	5/5	0.93	0.11	89,98,113,119	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	SO4	B	606	5/5	0.93	0.12	72,81,97,104	0
3	SO4	B	603	5/5	0.95	0.20	79,86,97,104	0
3	SO4	B	604	5/5	0.96	0.10	74,87,93,99	0
3	SO4	B	605	5/5	0.96	0.12	92,99,111,121	0
3	SO4	A	606	5/5	0.96	0.14	64,78,91,98	0
3	SO4	A	603	5/5	0.97	0.13	58,63,83,102	0
3	SO4	B	602	5/5	0.98	0.13	57,61,65,75	0
2	CA	A	601	1/1	0.98	0.17	74,74,74,74	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around CA B 601:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Full wwPDB X-ray Structure Validation Report

Electron density around CA A 601:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)

6.5 Other polymers ⓘ

There are no such residues in this entry.