



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 28, 2014 – 05:22 AM GMT

PDB ID : 3DJC
Title : CRYSTAL STRUCTURE OF PANTOTHENATE KINASE FROM LE-
GIONELLA PNEUMOPHILA
Authors : Patskovsky, Y.; Bonanno, J.B.; Romero, R.; Dickey, M.; Logan, C.; Wasser-
man, S.; Maletic, M.; Koss, J.; Sauder, J.M.; Burley, S.K.; Almo, S.C.; New
York SGX Research Center for Structural Genomics (NYSGXRC)
Deposited on : 2008-06-23
Resolution : 2.40 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

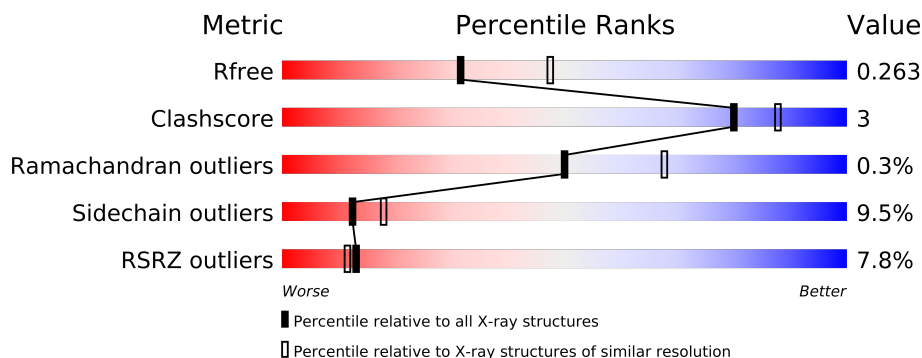
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : stable22639
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

The reported resolution of this entry is 2.40 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}	66092	2207 (2.40-2.40)
Clashscore	79885	2789 (2.40-2.40)
Ramachandran outliers	78287	2736 (2.40-2.40)
Sidechain outliers	78261	2737 (2.40-2.40)
RSRZ outliers	66119	2210 (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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	266	
1	B	266	
1	C	266	
1	D	266	
1	E	266	
1	F	266	
1	G	266	
1	H	266	
1	I	266	
1	J	266	
1	K	266	
1	L	266	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 23826 atoms, of which 0 are hydrogen and 0 are deuterium.

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 Type III pantothenate kinase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	255	Total	C	N	O	S	0	5	0
			1967	1256	336	367	8			
1	B	256	Total	C	N	O	S	0	7	0
			1993	1271	346	368	8			
1	C	256	Total	C	N	O	S	0	5	0
			1973	1259	339	367	8			
1	D	254	Total	C	N	O	S	0	6	0
			1962	1251	338	365	8			
1	E	252	Total	C	N	O	S	0	4	0
			1938	1236	333	361	8			
1	F	251	Total	C	N	O	S	0	4	0
			1931	1233	331	359	8			
1	G	256	Total	C	N	O	S	0	2	0
			1960	1250	337	365	8			
1	H	255	Total	C	N	O	S	0	4	0
			1967	1255	339	365	8			
1	I	255	Total	C	N	O	S	0	6	0
			1971	1258	338	367	8			
1	J	250	Total	C	N	O	S	0	5	0
			1941	1238	335	360	8			
1	K	250	Total	C	N	O	S	0	6	0
			1941	1237	336	360	8			
1	L	250	Total	C	N	O	S	0	4	0
			1931	1234	331	358	8			

There are 132 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	MET	-	expression tag	UNP Q5ZX22
A	0	SER	-	expression tag	UNP Q5ZX22
A	1	LEU	-	expression tag	UNP Q5ZX22
A	257	GLU	-	expression tag	UNP Q5ZX22
A	258	GLY	-	expression tag	UNP Q5ZX22

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Chain	Residue	Modelled	Actual	Comment	Reference
A	259	HIS	-	expression tag	UNP Q5ZX22
A	260	HIS	-	expression tag	UNP Q5ZX22
A	261	HIS	-	expression tag	UNP Q5ZX22
A	262	HIS	-	expression tag	UNP Q5ZX22
A	263	HIS	-	expression tag	UNP Q5ZX22
A	264	HIS	-	expression tag	UNP Q5ZX22
B	-1	MET	-	expression tag	UNP Q5ZX22
B	0	SER	-	expression tag	UNP Q5ZX22
B	1	LEU	-	expression tag	UNP Q5ZX22
B	257	GLU	-	expression tag	UNP Q5ZX22
B	258	GLY	-	expression tag	UNP Q5ZX22
B	259	HIS	-	expression tag	UNP Q5ZX22
B	260	HIS	-	expression tag	UNP Q5ZX22
B	261	HIS	-	expression tag	UNP Q5ZX22
B	262	HIS	-	expression tag	UNP Q5ZX22
B	263	HIS	-	expression tag	UNP Q5ZX22
B	264	HIS	-	expression tag	UNP Q5ZX22
C	-1	MET	-	expression tag	UNP Q5ZX22
C	0	SER	-	expression tag	UNP Q5ZX22
C	1	LEU	-	expression tag	UNP Q5ZX22
C	257	GLU	-	expression tag	UNP Q5ZX22
C	258	GLY	-	expression tag	UNP Q5ZX22
C	259	HIS	-	expression tag	UNP Q5ZX22
C	260	HIS	-	expression tag	UNP Q5ZX22
C	261	HIS	-	expression tag	UNP Q5ZX22
C	262	HIS	-	expression tag	UNP Q5ZX22
C	263	HIS	-	expression tag	UNP Q5ZX22
C	264	HIS	-	expression tag	UNP Q5ZX22
D	-1	MET	-	expression tag	UNP Q5ZX22
D	0	SER	-	expression tag	UNP Q5ZX22
D	1	LEU	-	expression tag	UNP Q5ZX22
D	257	GLU	-	expression tag	UNP Q5ZX22
D	258	GLY	-	expression tag	UNP Q5ZX22
D	259	HIS	-	expression tag	UNP Q5ZX22
D	260	HIS	-	expression tag	UNP Q5ZX22
D	261	HIS	-	expression tag	UNP Q5ZX22
D	262	HIS	-	expression tag	UNP Q5ZX22
D	263	HIS	-	expression tag	UNP Q5ZX22
D	264	HIS	-	expression tag	UNP Q5ZX22
E	-1	MET	-	expression tag	UNP Q5ZX22
E	0	SER	-	expression tag	UNP Q5ZX22
E	1	LEU	-	expression tag	UNP Q5ZX22

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Chain	Residue	Modelled	Actual	Comment	Reference
E	257	GLU	-	expression tag	UNP Q5ZX22
E	258	GLY	-	expression tag	UNP Q5ZX22
E	259	HIS	-	expression tag	UNP Q5ZX22
E	260	HIS	-	expression tag	UNP Q5ZX22
E	261	HIS	-	expression tag	UNP Q5ZX22
E	262	HIS	-	expression tag	UNP Q5ZX22
E	263	HIS	-	expression tag	UNP Q5ZX22
E	264	HIS	-	expression tag	UNP Q5ZX22
F	-1	MET	-	expression tag	UNP Q5ZX22
F	0	SER	-	expression tag	UNP Q5ZX22
F	1	LEU	-	expression tag	UNP Q5ZX22
F	257	GLU	-	expression tag	UNP Q5ZX22
F	258	GLY	-	expression tag	UNP Q5ZX22
F	259	HIS	-	expression tag	UNP Q5ZX22
F	260	HIS	-	expression tag	UNP Q5ZX22
F	261	HIS	-	expression tag	UNP Q5ZX22
F	262	HIS	-	expression tag	UNP Q5ZX22
F	263	HIS	-	expression tag	UNP Q5ZX22
F	264	HIS	-	expression tag	UNP Q5ZX22
G	-1	MET	-	expression tag	UNP Q5ZX22
G	0	SER	-	expression tag	UNP Q5ZX22
G	1	LEU	-	expression tag	UNP Q5ZX22
G	257	GLU	-	expression tag	UNP Q5ZX22
G	258	GLY	-	expression tag	UNP Q5ZX22
G	259	HIS	-	expression tag	UNP Q5ZX22
G	260	HIS	-	expression tag	UNP Q5ZX22
G	261	HIS	-	expression tag	UNP Q5ZX22
G	262	HIS	-	expression tag	UNP Q5ZX22
G	263	HIS	-	expression tag	UNP Q5ZX22
G	264	HIS	-	expression tag	UNP Q5ZX22
H	-1	MET	-	expression tag	UNP Q5ZX22
H	0	SER	-	expression tag	UNP Q5ZX22
H	1	LEU	-	expression tag	UNP Q5ZX22
H	257	GLU	-	expression tag	UNP Q5ZX22
H	258	GLY	-	expression tag	UNP Q5ZX22
H	259	HIS	-	expression tag	UNP Q5ZX22
H	260	HIS	-	expression tag	UNP Q5ZX22
H	261	HIS	-	expression tag	UNP Q5ZX22
H	262	HIS	-	expression tag	UNP Q5ZX22
H	263	HIS	-	expression tag	UNP Q5ZX22
H	264	HIS	-	expression tag	UNP Q5ZX22
I	-1	MET	-	expression tag	UNP Q5ZX22

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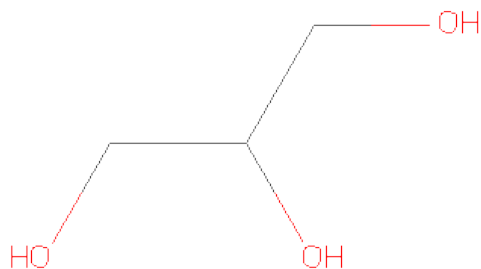
Chain	Residue	Modelled	Actual	Comment	Reference
I	0	SER	-	expression tag	UNP Q5ZX22
I	1	LEU	-	expression tag	UNP Q5ZX22
I	257	GLU	-	expression tag	UNP Q5ZX22
I	258	GLY	-	expression tag	UNP Q5ZX22
I	259	HIS	-	expression tag	UNP Q5ZX22
I	260	HIS	-	expression tag	UNP Q5ZX22
I	261	HIS	-	expression tag	UNP Q5ZX22
I	262	HIS	-	expression tag	UNP Q5ZX22
I	263	HIS	-	expression tag	UNP Q5ZX22
I	264	HIS	-	expression tag	UNP Q5ZX22
J	-1	MET	-	expression tag	UNP Q5ZX22
J	0	SER	-	expression tag	UNP Q5ZX22
J	1	LEU	-	expression tag	UNP Q5ZX22
J	257	GLU	-	expression tag	UNP Q5ZX22
J	258	GLY	-	expression tag	UNP Q5ZX22
J	259	HIS	-	expression tag	UNP Q5ZX22
J	260	HIS	-	expression tag	UNP Q5ZX22
J	261	HIS	-	expression tag	UNP Q5ZX22
J	262	HIS	-	expression tag	UNP Q5ZX22
J	263	HIS	-	expression tag	UNP Q5ZX22
J	264	HIS	-	expression tag	UNP Q5ZX22
K	-1	MET	-	expression tag	UNP Q5ZX22
K	0	SER	-	expression tag	UNP Q5ZX22
K	1	LEU	-	expression tag	UNP Q5ZX22
K	257	GLU	-	expression tag	UNP Q5ZX22
K	258	GLY	-	expression tag	UNP Q5ZX22
K	259	HIS	-	expression tag	UNP Q5ZX22
K	260	HIS	-	expression tag	UNP Q5ZX22
K	261	HIS	-	expression tag	UNP Q5ZX22
K	262	HIS	-	expression tag	UNP Q5ZX22
K	263	HIS	-	expression tag	UNP Q5ZX22
K	264	HIS	-	expression tag	UNP Q5ZX22
L	-1	MET	-	expression tag	UNP Q5ZX22
L	0	SER	-	expression tag	UNP Q5ZX22
L	1	LEU	-	expression tag	UNP Q5ZX22
L	257	GLU	-	expression tag	UNP Q5ZX22
L	258	GLY	-	expression tag	UNP Q5ZX22
L	259	HIS	-	expression tag	UNP Q5ZX22
L	260	HIS	-	expression tag	UNP Q5ZX22
L	261	HIS	-	expression tag	UNP Q5ZX22
L	262	HIS	-	expression tag	UNP Q5ZX22
L	263	HIS	-	expression tag	UNP Q5ZX22

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Chain	Residue	Modelled	Actual	Comment	Reference
L	264	HIS	-	expression tag	UNP Q5ZX22

- Molecule 2 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			6	3	3		
2	A	1	Total	C	O	0	0
			6	3	3		
2	B	1	Total	C	O	0	0
			6	3	3		
2	C	1	Total	C	O	0	0
			6	3	3		
2	C	1	Total	C	O	0	0
			6	3	3		
2	E	1	Total	C	O	0	0
			6	3	3		
2	E	1	Total	C	O	0	0
			6	3	3		
2	H	1	Total	C	O	0	0
			6	3	3		
2	H	1	Total	C	O	0	0
			6	3	3		
2	J	1	Total	C	O	0	0
			6	3	3		
2	L	1	Total	C	O	0	0
			6	3	3		

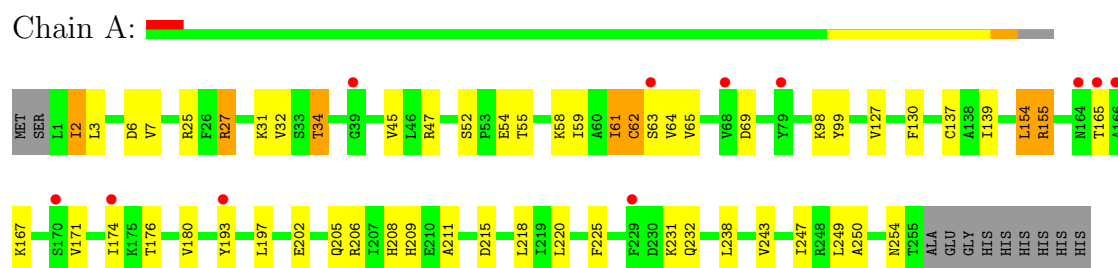
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	39	Total 39	O 39	0	0
3	B	37	Total 37	O 37	0	0
3	C	33	Total 33	O 33	0	0
3	D	28	Total 28	O 28	0	0
3	E	30	Total 30	O 30	0	0
3	F	27	Total 27	O 27	0	0
3	G	18	Total 18	O 18	0	0
3	H	10	Total 10	O 10	0	0
3	I	27	Total 27	O 27	0	0
3	J	12	Total 12	O 12	0	0
3	K	15	Total 15	O 15	0	0
3	L	9	Total 9	O 9	0	0

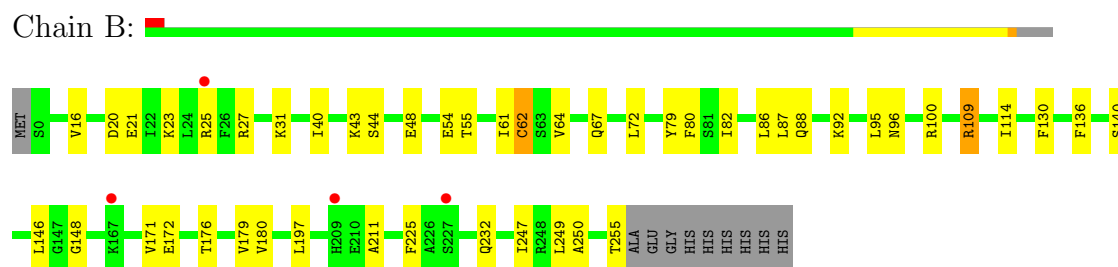
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

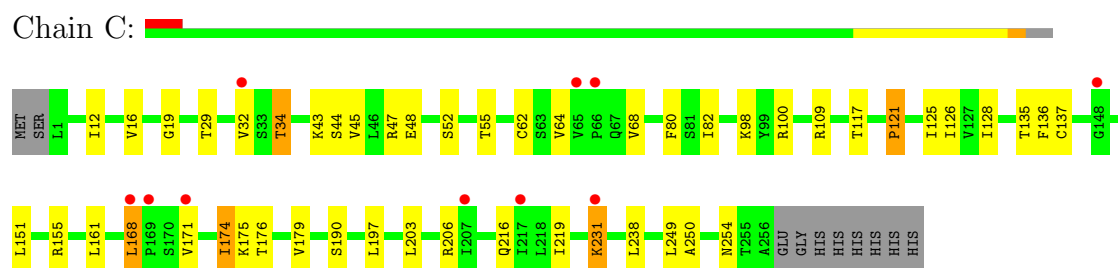
- Molecule 1: Type III pantothenate kinase



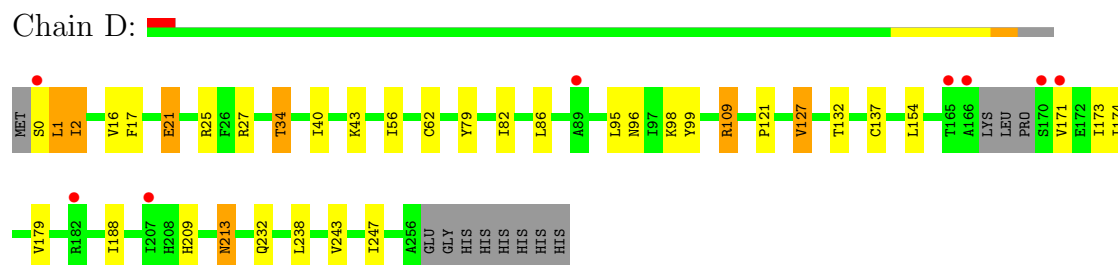
- Molecule 1: Type III pantothenate kinase



- Molecule 1: Type III pantothenate kinase

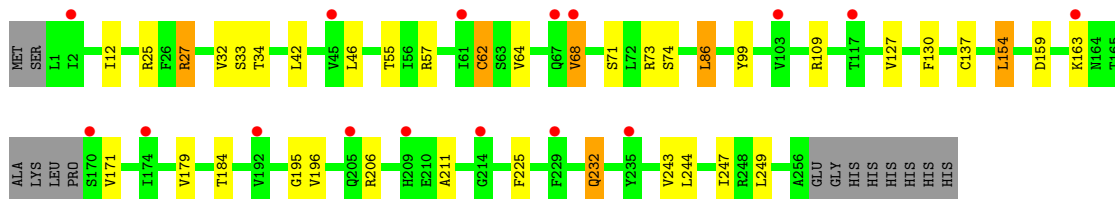


- Molecule 1: Type III pantothenate kinase



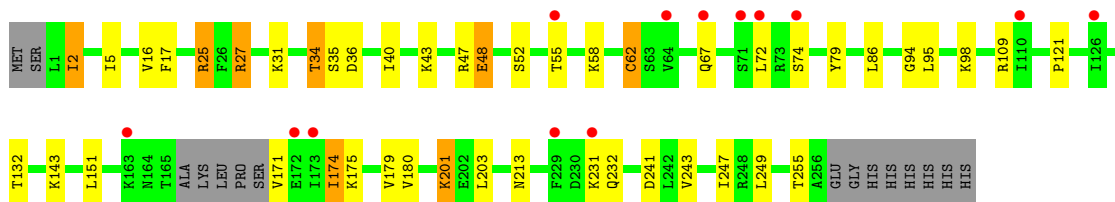
- Molecule 1: Type III pantothenate kinase

Chain E:



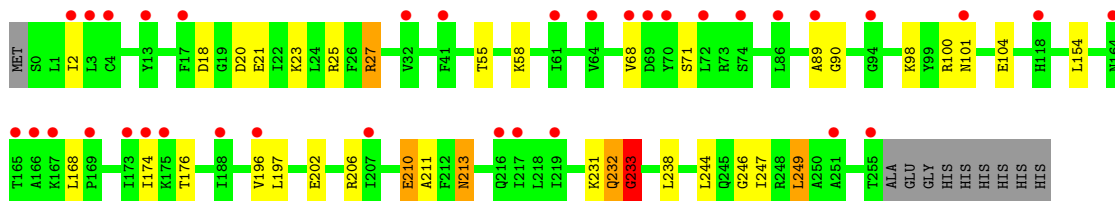
- Molecule 1: Type III pantothenate kinase

Chain F:



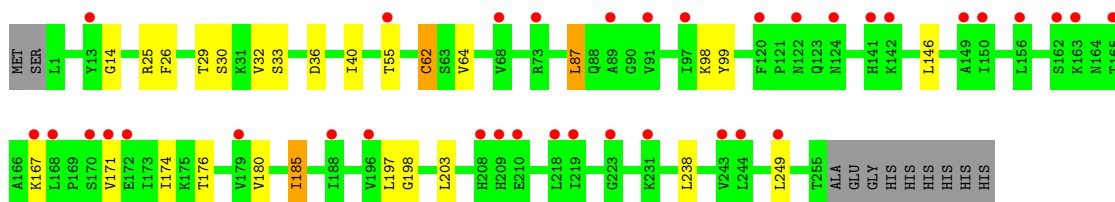
- Molecule 1: Type III pantothenate kinase

Chain G:



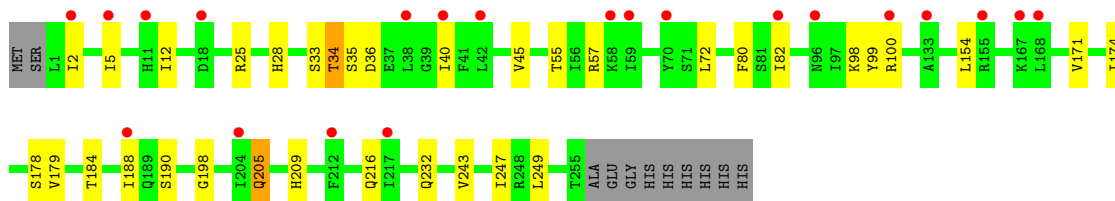
- Molecule 1: Type III pantothenate kinase

Chain H:



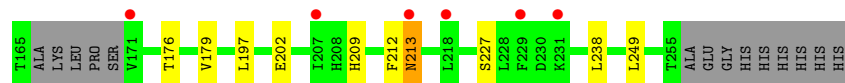
- Molecule 1: Type III pantothenate kinase

Chain I:



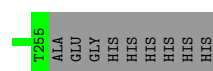
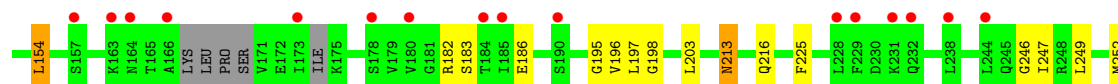
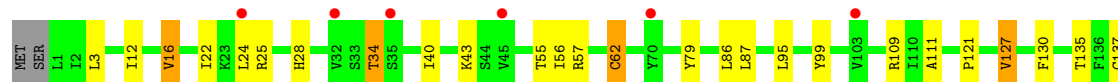
- Molecule 1: Type III pantothenate kinase

Chain J: 



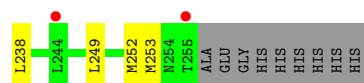
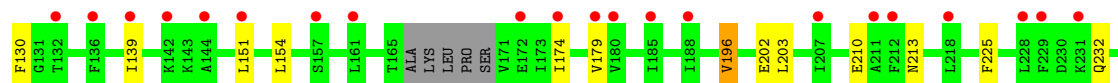
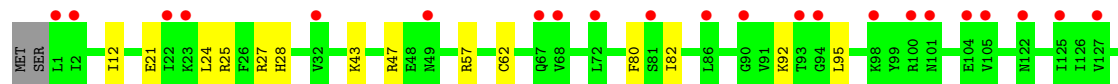
- Molecule 1: Type III pantothenate kinase

Chain K: 



- Molecule 1: Type III pantothenate kinase

Chain L: 



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	95.39Å 134.57Å 134.40Å 90.00° 93.24° 90.00°	Depositor
Resolution (Å)	20.00 – 2.40 32.01 – 2.35	Depositor EDS
% Data completeness (in resolution range)	97.5 (20.00-2.40) 88.4 (32.01-2.35)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	0.12	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 2.36Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.259 , 0.313 0.238 , 0.263	Depositor DCC
R_{free} test set	4086 reflections (3.12%)	DCC
Wilson B-factor (Å ²)	60.4	Xtriage
Anisotropy	0.031	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 41.1	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.25$	Xtriage
Outliers	0 of 135121 reflections	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	23826	wwPDB-VP
Average B, all atoms (Å ²)	63.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.68% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality

5.1 Standard geometry

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

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	0.41	0/2015	0.61	1/2728 (0.0%)
1	B	0.43	0/2047	0.67	0/2768
1	C	0.44	0/2021	0.62	0/2736
1	D	0.43	0/2011	0.63	0/2719
1	E	0.41	0/1982	0.61	0/2682
1	F	0.40	0/1974	0.61	0/2670
1	G	0.45	0/1999	0.59	0/2707
1	H	0.39	0/2012	0.57	0/2723
1	I	0.39	0/2022	0.59	0/2737
1	J	0.38	0/1987	0.58	0/2687
1	K	0.39	0/1989	0.59	0/2690
1	L	0.39	0/1974	0.56	0/2668
All	All	0.41	0/24033	0.60	1/32515 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	D	0	1
1	G	0	2
1	H	0	1
All	All	0	5

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	154	LEU	CA-CB-CG	5.36	127.62	115.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	62	CYS	Peptide
1	D	0	SER	Peptide
1	G	231	LYS	Peptide
1	G	233	GLY	Peptide
1	H	32	VAL	Peptide

5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1967	0	2026	27	0
1	B	1993	0	2063	17	0
1	C	1973	0	2034	19	0
1	D	1962	0	2024	14	0
1	E	1938	0	1987	16	0
1	F	1931	0	1988	22	0
1	G	1960	0	2013	14	0
1	H	1967	0	2025	8	0
1	I	1971	0	2034	14	0
1	J	1941	0	1996	11	0
1	K	1941	0	1996	15	0
1	L	1931	0	1990	10	0
2	A	12	0	16	0	0
2	B	6	0	8	0	0
2	C	12	0	16	0	0
2	E	12	0	16	0	0
2	H	12	0	16	0	0
2	J	6	0	8	0	0
2	L	6	0	8	0	0
3	A	39	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	37	0	0	1	0
3	C	33	0	0	0	0
3	D	28	0	0	0	0
3	E	30	0	0	0	0
3	F	27	0	0	0	0
3	G	18	0	0	0	0
3	H	10	0	0	0	0
3	I	27	0	0	0	0
3	J	12	0	0	0	0
3	K	15	0	0	0	0
3	L	9	0	0	0	0
All	All	23826	0	24264	160	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 3.

All (160) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:174:ILE:HG13	1:F:175:LYS:N	1.94	0.79
1:D:1:LEU:HB3	1:D:56:ILE:HD13	1.67	0.75
1:C:128:ILE:HD11	1:C:219:ILE:HD11	1.67	0.75
1:C:34[A]:THR:HG21	1:F:27:ARG:HB3	1.71	0.73
1:E:206:ARG:HB3	1:F:179:VAL:HG21	1.71	0.73
1:A:62:CYS:HB2	1:A:247:ILE:HG12	1.70	0.72
1:A:64:VAL:HG23	1:A:64:VAL:O	1.90	0.70
1:C:231:LYS:H	1:C:231:LYS:HD2	1.57	0.69
1:G:232:GLN:O	1:G:233:GLY:C	2.30	0.69
1:H:171:VAL:HG23	1:H:185:ILE:HG13	1.74	0.69
1:A:155:ARG:HD2	3:A:302:HOH:O	1.96	0.64
1:F:2:ILE:HG22	1:F:17:PHE:HB2	1.79	0.64
1:B:27:ARG:HB3	1:F:34[A]:THR:HG21	1.79	0.63
1:A:32:VAL:O	1:A:32:VAL:HG13	1.99	0.60
1:A:61:ILE:O	1:A:61:ILE:HG22	2.00	0.60
1:E:62:CYS:HB3	1:E:247:ILE:HG12	1.84	0.59
1:A:2:ILE:HG12	1:A:58:LYS:HB2	1.85	0.58
1:F:36:ASP:O	1:F:40:ILE:HG12	2.03	0.58
1:D:109:ARG:HA	1:D:109:ARG:HE	1.68	0.58
1:E:244:LEU:HA	1:E:247:ILE:HD12	1.87	0.57
1:J:27:ARG:HB3	1:K:34[A]:THR:HG21	1.87	0.57
1:A:27:ARG:HB3	1:D:34[A]:THR:HG21	1.87	0.56
1:I:80:PHE:HB3	1:I:82:ILE:HD12	1.90	0.54
1:D:43:LYS:HD2	1:D:79:TYR:HB3	1.89	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:206:ARG:O	1:G:210:GLU:HB2	2.08	0.54
1:D:2:ILE:HG23	1:D:17:PHE:HB2	1.89	0.53
1:A:130:PHE:HB3	1:A:225:PHE:HB2	1.90	0.53
1:J:43:LYS:HD2	1:J:79:TYR:HB3	1.90	0.53
1:F:5:ILE:HG21	1:F:72:LEU:HD21	1.91	0.53
1:K:183:SER:HB3	1:K:186:GLU:HB2	1.91	0.53
1:K:195:GLY:HA3	1:L:151:LEU:HD21	1.91	0.53
1:F:35:SER:HB3	1:F:74:SER:HB3	1.90	0.53
1:J:45:VAL:HB	1:K:40:ILE:HD11	1.90	0.53
1:G:211:ALA:HB2	1:H:180:VAL:HG21	1.91	0.52
1:A:6:ASP:HA	1:A:62:CYS:O	2.09	0.52
1:F:243:VAL:O	1:F:247:ILE:HG13	2.10	0.52
1:A:208:HIS:NE2	1:A:215:ASP:O	2.28	0.52
1:E:195:GLY:HA3	1:F:151:LEU:HD21	1.91	0.52
1:L:154:LEU:HD21	1:L:196:VAL:HG11	1.93	0.51
1:K:130:PHE:HB3	1:K:225:PHE:HB2	1.93	0.51
1:A:205:GLN:O	1:A:209:HIS:ND1	2.40	0.51
1:B:62:CYS:HB2	1:B:87:LEU:HD23	1.93	0.50
1:K:43:LYS:HD2	1:K:79:TYR:HB3	1.92	0.50
1:J:209:HIS:O	1:J:213:ASN:ND2	2.45	0.50
1:A:127:VAL:HG13	1:A:137:CYS:HB2	1.92	0.50
1:B:40:ILE:HD11	1:C:45:VAL:HA	1.92	0.50
1:G:246:GLY:HA2	1:G:249:LEU:HB2	1.93	0.49
1:I:179:VAL:HA	1:I:190:SER:HB3	1.94	0.49
1:F:43:LYS:HD2	1:F:79:TYR:HB3	1.93	0.49
1:I:12:ILE:HB	1:I:28:HIS:HB3	1.92	0.49
1:A:193:TYR:OH	1:A:232:GLN:NE2	2.46	0.49
1:A:243:VAL:O	1:A:247:ILE:HG13	2.12	0.48
1:C:80:PHE:HB3	1:C:82:ILE:HD12	1.95	0.48
1:G:2:ILE:HG13	1:G:58:LYS:HB3	1.95	0.48
1:F:174:ILE:CG1	1:F:175:LYS:N	2.70	0.48
1:C:12:ILE:HD11	1:C:68:VAL:HG11	1.96	0.48
1:A:165:THR:HG22	1:A:167:LYS:H	1.78	0.48
1:I:36:ASP:O	1:I:40:ILE:HG12	2.14	0.47
1:C:206:ARG:HB3	1:D:179:VAL:HG11	1.95	0.47
1:H:62:CYS:HB2	1:H:87:LEU:HD13	1.97	0.47
1:B:109:ARG:NH1	3:B:279:HOH:O	2.47	0.47
1:G:101:ASN:HD22	1:G:104:GLU:HG3	1.79	0.47
1:B:86:LEU:HB3	1:B:88:GLN:HG3	1.96	0.46
1:B:140:SER:HB3	1:B:146:LEU:HD11	1.96	0.46
1:A:180:VAL:HG21	1:B:211:ALA:HB2	1.97	0.46
1:K:3:LEU:HB2	1:K:56:ILE:HD12	1.98	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:243:VAL:O	1:D:247:ILE:HG13	2.15	0.46
1:K:111:ALA:O	1:K:246:GLY:HA3	2.16	0.46
1:B:48:GLU:OE1	1:F:47:ARG:NH1	2.48	0.46
1:E:211:ALA:HB2	1:F:180:VAL:HG21	1.97	0.46
1:I:184:THR:O	1:I:188:ILE:HG22	2.15	0.46
1:A:211:ALA:HB2	1:B:180:VAL:HG21	1.98	0.46
1:A:61:ILE:HG23	1:A:63:SER:HB3	1.98	0.46
1:K:16:VAL:HG13	1:K:24:LEU:HB3	1.98	0.45
1:K:62:CYS:HB3	1:K:247:ILE:HG12	1.98	0.45
1:A:202:GLU:OE1	1:A:206:ARG:NE	2.49	0.45
1:F:62:CYS:HB3	1:F:247:ILE:HG12	1.98	0.45
1:C:250:ALA:O	1:C:254:ASN:ND2	2.43	0.45
1:F:2:ILE:HG12	1:F:58:LYS:HB2	1.99	0.45
1:F:121:PRO:HG2	1:I:178[B]:SER:HB2	1.98	0.45
1:F:121:PRO:HG2	1:I:178[A]:SER:HB2	1.98	0.45
1:F:25:ARG:NH1	1:F:241:ASP:OD1	2.50	0.45
1:D:127:VAL:HG13	1:D:137:CYS:HB2	1.99	0.45
1:C:117:THR:O	1:C:121:PRO:HA	2.17	0.45
1:G:232:GLN:HE21	1:G:232:GLN:HB2	1.48	0.44
1:B:40:ILE:HD12	1:C:48:GLU:HG3	1.97	0.44
1:A:45:VAL:HB	1:D:40:ILE:HD11	2.00	0.44
1:C:161:LEU:HB3	1:C:168:LEU:HD22	1.99	0.44
1:H:36:ASP:O	1:H:40:ILE:HG12	2.17	0.44
1:B:62:CYS:HB3	1:B:247:ILE:HG12	2.00	0.44
1:G:18:ASP:HB2	1:G:23:LYS:HE2	2.00	0.44
1:I:243:VAL:O	1:I:247:ILE:HG13	2.18	0.44
1:K:198:GLY:HA3	1:L:202:GLU:HB2	1.98	0.44
1:A:250:ALA:O	1:A:254:ASN:ND2	2.33	0.44
1:K:62:CYS:HB2	1:K:87:LEU:HD23	2.00	0.44
1:F:94:GLY:O	1:F:143[B]:LYS:HE3	2.18	0.43
1:E:154:LEU:HD22	1:E:196:VAL:HG11	2.00	0.43
1:E:12:ILE:HD11	1:E:68:VAL:HG11	1.99	0.43
1:B:130:PHE:HB3	1:B:225:PHE:HB2	2.01	0.43
1:B:136:PHE:O	1:B:148:GLY:HA3	2.18	0.43
1:K:154:LEU:HD22	1:K:196:VAL:HG11	1.98	0.43
1:E:130:PHE:HB3	1:E:225:PHE:HB2	2.01	0.43
1:J:62:CYS:HB2	1:J:87:LEU:HD23	2.01	0.43
1:E:73:ARG:HD3	1:E:86:LEU:HD21	1.99	0.43
1:A:7:VAL:O	1:A:64:VAL:HG13	2.19	0.43
1:B:43:LYS:HD2	1:B:79:TYR:HB3	2.00	0.43
1:E:27:ARG:HB2	1:E:27:ARG:HE	1.57	0.43
1:B:114:ILE:HD13	1:B:250:ALA:HB2	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:136:PHE:HE1	1:C:151:LEU:HD12	1.84	0.43
1:C:52:SER:HB3	1:C:55:THR:HG23	2.00	0.43
1:A:64:VAL:HG22	1:A:65:VAL:HG23	2.01	0.42
1:K:12:ILE:HB	1:K:28:HIS:HB3	2.00	0.42
1:J:212:PHE:O	1:J:213:ASN:CB	2.66	0.42
1:L:130:PHE:HB3	1:L:225:PHE:HB2	2.01	0.42
1:C:126:ILE:HA	1:C:137:CYS:O	2.20	0.42
1:A:64:VAL:O	1:A:64:VAL:CG2	2.58	0.42
1:E:232:GLN:HE21	1:E:232:GLN:HB2	1.69	0.42
1:B:61:ILE:HD13	1:B:72:LEU:HG	2.02	0.42
1:I:205:GLN:HG2	1:I:209:HIS:HE1	1.84	0.42
1:H:40:ILE:HD11	1:I:45:VAL:HA	2.02	0.42
1:L:92:LYS:HD3	1:L:253:MET:HB3	2.02	0.42
1:E:127:VAL:HG13	1:E:137:CYS:HB2	2.01	0.42
1:G:244:LEU:HA	1:G:247:ILE:HD12	2.02	0.42
1:L:12:ILE:N	1:L:28:HIS:O	2.50	0.42
1:C:109:ARG:HD3	1:C:109:ARG:HA	1.79	0.41
1:C:179:VAL:HA	1:C:190:SER:HB3	2.02	0.41
1:A:63:SER:HB2	1:A:69:ASP:OD1	2.20	0.41
1:D:21:GLU:H	1:D:21:GLU:HG2	1.68	0.41
1:D:27:ARG:HB2	1:D:27:ARG:HE	1.58	0.41
1:B:80:PHE:HB3	1:B:82:ILE:HD12	2.01	0.41
1:J:107:ALA:HA	1:J:110:ILE:HD12	2.01	0.41
1:E:243:VAL:O	1:E:247:ILE:HG13	2.20	0.41
1:I:205:GLN:HG2	1:I:209:HIS:CE1	2.55	0.41
1:K:127:VAL:HG13	1:K:137:CYS:HB2	2.02	0.41
1:G:154:LEU:HA	1:G:154:LEU:HD23	1.76	0.41
1:G:89:ALA:HA	1:G:90:GLY:HA2	1.59	0.41
1:E:42:LEU:O	1:E:46:LEU:HG	2.20	0.41
1:C:174:ILE:HG12	1:C:175:LYS:N	2.36	0.41
1:I:34[A]:THR:HG21	1:L:27:ARG:HB3	2.01	0.41
1:J:80:PHE:HB3	1:J:82:ILE:HD12	2.02	0.41
1:D:109:ARG:HA	1:D:109:ARG:NE	2.32	0.41
1:D:154:LEU:HD23	1:D:173:ILE:CG2	2.50	0.41
1:C:43:LYS:NZ	1:F:48:GLU:HG3	2.36	0.41
1:C:43:LYS:HE2	1:C:47:ARG:HH12	1.85	0.41
1:G:202:GLU:HB2	1:H:198:GLY:HA3	2.02	0.41
1:H:14:GLY:HA3	1:H:26:PHE:CZ	2.55	0.41
1:A:34[A]:THR:HG21	1:E:27:ARG:HB3	2.03	0.41
1:A:3:LEU:HD23	1:A:59:ILE:HG12	2.03	0.41
1:G:154:LEU:HD21	1:G:196:VAL:HG11	2.02	0.40
1:L:80:PHE:HB3	1:L:82:ILE:HD12	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:159:ASP:O	1:E:163:LYS:HB2	2.21	0.40
1:I:198:GLY:HA3	1:J:202:GLU:HB2	2.02	0.40
1:G:27:ARG:HB3	1:J:34[A]:THR:HG21	2.02	0.40
1:L:43:LYS:HE2	1:L:47:ARG:HH22	1.86	0.40
1:F:201:LYS:HE2	1:F:201:LYS:HB3	1.68	0.40
1:L:203:LEU:HD13	1:L:203:LEU:HA	2.00	0.40
1:I:5:ILE:HG21	1:I:72:LEU:HD21	2.03	0.40
1:H:98:LYS:HB2	1:H:146:LEU:HA	2.04	0.40
1:D:209:HIS:HA	1:D:213:ASN:HA	2.02	0.40
1:J:127:VAL:HG13	1:J:137:CYS:HB2	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	258/266 (97%)	249 (96%)	9 (4%)	0	100	100
1	B	261/266 (98%)	252 (97%)	9 (3%)	0	100	100
1	C	259/266 (97%)	248 (96%)	9 (4%)	2 (1%)	27	39
1	D	256/266 (96%)	250 (98%)	5 (2%)	1 (0%)	43	61
1	E	252/266 (95%)	245 (97%)	7 (3%)	0	100	100
1	F	251/266 (94%)	238 (95%)	12 (5%)	1 (0%)	43	61
1	G	256/266 (96%)	244 (95%)	10 (4%)	2 (1%)	27	39
1	H	257/266 (97%)	246 (96%)	11 (4%)	0	100	100
1	I	259/266 (97%)	244 (94%)	15 (6%)	0	100	100
1	J	251/266 (94%)	243 (97%)	7 (3%)	1 (0%)	43	61
1	K	250/266 (94%)	244 (98%)	4 (2%)	2 (1%)	27	39
1	L	250/266 (94%)	240 (96%)	9 (4%)	1 (0%)	43	61
All	All	3060/3192 (96%)	2943 (96%)	107 (4%)	10 (0%)	50	68

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	233	GLY
1	J	213	ASN
1	F	213	ASN
1	K	213	ASN
1	L	213	ASN
1	D	121	PRO
1	G	213	ASN
1	C	121	PRO
1	K	121	PRO
1	C	19	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	218/222 (98%)	192 (88%)	26 (12%)	8	10
1	B	221/222 (100%)	193 (87%)	28 (13%)	6	7
1	C	218/222 (98%)	195 (89%)	23 (11%)	10	14
1	D	217/222 (98%)	194 (89%)	23 (11%)	10	14
1	E	214/222 (96%)	192 (90%)	22 (10%)	10	15
1	F	213/222 (96%)	188 (88%)	25 (12%)	8	10
1	G	216/222 (97%)	198 (92%)	18 (8%)	16	24
1	H	217/222 (98%)	200 (92%)	17 (8%)	18	27
1	I	219/222 (99%)	201 (92%)	18 (8%)	17	24
1	J	214/222 (96%)	197 (92%)	17 (8%)	18	26
1	K	214/222 (96%)	191 (89%)	23 (11%)	10	13
1	L	213/222 (96%)	198 (93%)	15 (7%)	21	33
All	All	2594/2664 (97%)	2339 (90%)	255 (10%)	12	17

All (255) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	ILE

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Mol	Chain	Res	Type
1	A	25	ARG
1	A	27	ARG
1	A	31	LYS
1	A	34[A]	THR
1	A	34[B]	THR
1	A	47	ARG
1	A	52	SER
1	A	54[A]	GLU
1	A	54[B]	GLU
1	A	55	THR
1	A	61	ILE
1	A	98	LYS
1	A	99	TYR
1	A	139	ILE
1	A	154	LEU
1	A	155	ARG
1	A	171	VAL
1	A	174	ILE
1	A	176	THR
1	A	197	LEU
1	A	218	LEU
1	A	220	LEU
1	A	231	LYS
1	A	238	LEU
1	A	249	LEU
1	B	16	VAL
1	B	20	ASP
1	B	21	GLU
1	B	23	LYS
1	B	25	ARG
1	B	31	LYS
1	B	44	SER
1	B	54	GLU
1	B	55	THR
1	B	62	CYS
1	B	64	VAL
1	B	67[A]	GLN
1	B	67[B]	GLN
1	B	92	LYS
1	B	95	LEU
1	B	96	ASN
1	B	100[A]	ARG

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Mol	Chain	Res	Type
1	B	100[B]	ARG
1	B	109	ARG
1	B	171	VAL
1	B	172[A]	GLU
1	B	172[B]	GLU
1	B	176	THR
1	B	179	VAL
1	B	197	LEU
1	B	232	GLN
1	B	249	LEU
1	B	255	THR
1	C	16	VAL
1	C	29	THR
1	C	32	VAL
1	C	34[A]	THR
1	C	34[B]	THR
1	C	44	SER
1	C	62	CYS
1	C	64	VAL
1	C	98	LYS
1	C	100	ARG
1	C	125	ILE
1	C	135	THR
1	C	155	ARG
1	C	168	LEU
1	C	171	VAL
1	C	174	ILE
1	C	176	THR
1	C	197	LEU
1	C	203	LEU
1	C	216	GLN
1	C	231	LYS
1	C	238	LEU
1	C	249	LEU
1	D	1	LEU
1	D	2	ILE
1	D	16	VAL
1	D	21	GLU
1	D	25	ARG
1	D	34[A]	THR
1	D	34[B]	THR
1	D	62	CYS

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Mol	Chain	Res	Type
1	D	82	ILE
1	D	86	LEU
1	D	95	LEU
1	D	96	ASN
1	D	98	LYS
1	D	99	TYR
1	D	109	ARG
1	D	127	VAL
1	D	132	THR
1	D	171	VAL
1	D	174	ILE
1	D	188	ILE
1	D	213	ASN
1	D	232	GLN
1	D	238	LEU
1	E	25	ARG
1	E	27	ARG
1	E	32	VAL
1	E	33	SER
1	E	34[A]	THR
1	E	34[B]	THR
1	E	55	THR
1	E	57	ARG
1	E	62	CYS
1	E	64	VAL
1	E	68	VAL
1	E	71	SER
1	E	74	SER
1	E	86	LEU
1	E	99	TYR
1	E	109	ARG
1	E	154	LEU
1	E	171	VAL
1	E	179	VAL
1	E	184	THR
1	E	232	GLN
1	E	249	LEU
1	F	2	ILE
1	F	16	VAL
1	F	25	ARG
1	F	27	ARG
1	F	31	LYS

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Mol	Chain	Res	Type
1	F	34[A]	THR
1	F	34[B]	THR
1	F	48	GLU
1	F	52	SER
1	F	55	THR
1	F	62	CYS
1	F	67	GLN
1	F	86	LEU
1	F	95	LEU
1	F	98	LYS
1	F	109	ARG
1	F	132	THR
1	F	171	VAL
1	F	174	ILE
1	F	201	LYS
1	F	203	LEU
1	F	231	LYS
1	F	232	GLN
1	F	249	LEU
1	F	255	THR
1	G	20	ASP
1	G	21	GLU
1	G	25	ARG
1	G	27	ARG
1	G	55	THR
1	G	68	VAL
1	G	71	SER
1	G	98	LYS
1	G	100	ARG
1	G	168	LEU
1	G	174	ILE
1	G	176	THR
1	G	197	LEU
1	G	210	GLU
1	G	213	ASN
1	G	232	GLN
1	G	238	LEU
1	G	249	LEU
1	H	25	ARG
1	H	29	THR
1	H	30	SER
1	H	33	SER

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Mol	Chain	Res	Type
1	H	55	THR
1	H	62	CYS
1	H	64	VAL
1	H	87	LEU
1	H	99	TYR
1	H	167	LYS
1	H	174	ILE
1	H	176	THR
1	H	185	ILE
1	H	197	LEU
1	H	203	LEU
1	H	238	LEU
1	H	249	LEU
1	I	2	ILE
1	I	25	ARG
1	I	33	SER
1	I	34[A]	THR
1	I	34[B]	THR
1	I	35	SER
1	I	55	THR
1	I	57	ARG
1	I	98	LYS
1	I	99	TYR
1	I	100	ARG
1	I	154	LEU
1	I	171	VAL
1	I	174	ILE
1	I	205	GLN
1	I	216	GLN
1	I	232	GLN
1	I	249	LEU
1	J	2	ILE
1	J	24	LEU
1	J	25	ARG
1	J	34[A]	THR
1	J	34[B]	THR
1	J	52	SER
1	J	62	CYS
1	J	95	LEU
1	J	96	ASN
1	J	99	TYR
1	J	128	ILE

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Mol	Chain	Res	Type
1	J	176	THR
1	J	179	VAL
1	J	197	LEU
1	J	227	SER
1	J	238	LEU
1	J	249	LEU
1	K	16	VAL
1	K	22	ILE
1	K	25	ARG
1	K	34[A]	THR
1	K	34[B]	THR
1	K	55	THR
1	K	57	ARG
1	K	62	CYS
1	K	86	LEU
1	K	95	LEU
1	K	99	TYR
1	K	109	ARG
1	K	127	VAL
1	K	135[A]	THR
1	K	135[B]	THR
1	K	154	LEU
1	K	182	ARG
1	K	197	LEU
1	K	203	LEU
1	K	213	ASN
1	K	216	GLN
1	K	249	LEU
1	K	252	MET
1	L	21	GLU
1	L	24	LEU
1	L	25	ARG
1	L	57	ARG
1	L	62	CYS
1	L	95	LEU
1	L	139	ILE
1	L	174	ILE
1	L	179	VAL
1	L	196	VAL
1	L	210	GLU
1	L	232	GLN
1	L	238	LEU

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Mol	Chain	Res	Type
1	L	249	LEU
1	L	252	MET

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	122	ASN
1	A	216	GLN
1	A	232	GLN
1	A	245	GLN
1	B	123	GLN
1	B	216	GLN
1	B	232	GLN
1	B	245	GLN
1	C	67	GLN
1	C	112	ASN
1	C	245	GLN
1	D	50	ASN
1	D	88	GLN
1	D	122	ASN
1	D	232	GLN
1	E	216	GLN
1	E	232	GLN
1	E	245	GLN
1	F	67	GLN
1	F	96	ASN
1	F	232	GLN
1	G	101	ASN
1	G	112	ASN
1	G	164	ASN
1	G	213	ASN
1	G	232	GLN
1	G	245	GLN
1	H	9	ASN
1	H	245	GLN
1	I	9	ASN
1	I	28	HIS
1	I	88	GLN
1	I	208	HIS
1	I	216	GLN
1	I	232	GLN
1	J	122	ASN

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Mol	Chain	Res	Type
1	J	213	ASN
1	J	232	GLN
1	J	245	GLN
1	K	189	GLN
1	K	216	GLN
1	K	245	GLN
1	L	9	ASN
1	L	232	GLN
1	L	245	GLN

5.3.3 RNA ⓘ

There are no RNA chains 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 carbohydrates in this entry.

5.6 Ligand geometry ⓘ

11 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	$\# Z > 2$
2	GOL	A	265	-	5,5,5	0.36	0	5,5,5	0.23	0
2	GOL	A	266	-	5,5,5	0.31	0	5,5,5	0.37	0
2	GOL	B	265	-	5,5,5	0.33	0	5,5,5	0.38	0
2	GOL	C	265	-	5,5,5	0.33	0	5,5,5	0.27	0
2	GOL	C	266	-	5,5,5	0.33	0	5,5,5	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	GOL	E	265	-	5,5,5	0.32	0	5,5,5	0.28	0
2	GOL	E	266	-	5,5,5	0.26	0	5,5,5	0.47	0
2	GOL	H	265	-	5,5,5	0.34	0	5,5,5	0.21	0
2	GOL	H	266	-	5,5,5	0.32	0	5,5,5	0.27	0
2	GOL	J	265	-	5,5,5	0.35	0	5,5,5	0.38	0
2	GOL	L	265	-	5,5,5	0.33	0	5,5,5	0.43	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
2	GOL	A	265	-	-	0/4/4/4	0/0/0/0
2	GOL	A	266	-	-	0/4/4/4	0/0/0/0
2	GOL	B	265	-	-	0/4/4/4	0/0/0/0
2	GOL	C	265	-	-	0/4/4/4	0/0/0/0
2	GOL	C	266	-	-	0/4/4/4	0/0/0/0
2	GOL	E	265	-	-	0/4/4/4	0/0/0/0
2	GOL	E	266	-	-	0/4/4/4	0/0/0/0
2	GOL	H	265	-	-	0/4/4/4	0/0/0/0
2	GOL	H	266	-	-	0/4/4/4	0/0/0/0
2	GOL	J	265	-	-	0/4/4/4	0/0/0/0
2	GOL	L	265	-	-	0/4/4/4	0/0/0/0

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.

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	255/266 (95%)	0.36	11 (4%) 34 32	28, 54, 79, 87	0
1	B	256/266 (96%)	0.28	4 (1%) 68 67	29, 52, 74, 82	0
1	C	256/266 (96%)	0.37	10 (3%) 37 35	34, 55, 73, 94	0
1	D	254/266 (95%)	0.35	8 (3%) 47 44	38, 54, 78, 111	0
1	E	252/266 (94%)	0.46	16 (6%) 19 18	32, 52, 78, 102	0
1	F	251/266 (94%)	0.46	13 (5%) 26 24	39, 58, 83, 100	0
1	G	256/266 (96%)	0.87	35 (13%) 4 3	45, 69, 92, 135	0
1	H	255/266 (95%)	0.83	36 (14%) 3 3	44, 68, 96, 113	0
1	I	255/266 (95%)	0.57	21 (8%) 12 10	46, 65, 90, 104	0
1	J	250/266 (93%)	0.66	18 (7%) 15 13	47, 67, 90, 99	0
1	K	250/266 (93%)	0.52	22 (8%) 10 9	39, 63, 99, 115	0
1	L	250/266 (93%)	1.06	45 (18%) 2 1	50, 75, 102, 120	0
All	All	3040/3192 (95%)	0.56	239 (7%) 13 11	28, 61, 90, 135	0

All (239) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	167	LYS	13.7
1	I	167	LYS	10.6
1	L	94	GLY	10.5
1	G	169	PRO	8.6
1	G	166	ALA	8.6
1	L	2	ILE	7.2
1	K	180	VAL	6.8
1	H	231	LYS	6.6
1	G	165	THR	6.4
1	I	2	ILE	6.4
1	H	167	LYS	6.3

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Mol	Chain	Res	Type	RSRZ
1	G	188	ILE	6.2
1	H	249	LEU	6.0
1	C	32	VAL	5.9
1	J	229	PHE	5.7
1	G	3	LEU	5.4
1	H	97	ILE	5.4
1	H	168	LEU	5.3
1	G	4	CYS	5.2
1	L	151	LEU	5.1
1	L	142	LYS	5.1
1	E	68	VAL	5.1
1	L	122	ASN	5.0
1	G	2	ILE	4.8
1	L	67	GLN	4.8
1	L	68	VAL	4.8
1	A	229	PHE	4.5
1	L	211	ALA	4.5
1	G	61	ILE	4.5
1	H	156	LEU	4.4
1	L	136	PHE	4.3
1	H	219	ILE	4.3
1	L	104	GLU	4.3
1	J	122	ASN	4.3
1	A	164	ASN	4.2
1	G	68	VAL	4.1
1	J	231	LYS	4.1
1	I	100	ARG	4.0
1	L	180	VAL	4.0
1	H	218	LEU	4.0
1	L	231	LYS	4.0
1	F	64	VAL	3.9
1	J	61	ILE	3.9
1	L	207	ILE	3.9
1	E	192	VAL	3.8
1	E	214	GLY	3.8
1	D	89	ALA	3.8
1	C	217	ILE	3.8
1	E	45	VAL	3.7
1	K	229	PHE	3.7
1	G	164	ASN	3.7
1	H	171	VAL	3.6
1	G	217	ILE	3.6

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Mol	Chain	Res	Type	RSRZ
1	J	68	VAL	3.6
1	J	73	ARG	3.5
1	G	69	ASP	3.5
1	A	174	ILE	3.5
1	K	32	VAL	3.5
1	K	157	SER	3.5
1	L	174	ILE	3.4
1	G	101	ASN	3.4
1	H	120	PHE	3.4
1	I	212	PHE	3.4
1	A	165	THR	3.4
1	K	231	LYS	3.4
1	G	207	ILE	3.4
1	I	133	ALA	3.3
1	L	185	ILE	3.3
1	C	65	VAL	3.3
1	C	169	PRO	3.3
1	I	188	ILE	3.3
1	I	168	LEU	3.3
1	J	171	VAL	3.3
1	H	172	GLU	3.3
1	I	42	LEU	3.3
1	L	218	LEU	3.3
1	L	228	LEU	3.3
1	I	18	ASP	3.3
1	J	106	GLY	3.2
1	H	196	VAL	3.2
1	H	170	SER	3.2
1	C	231	LYS	3.2
1	G	70	TYR	3.2
1	G	175	LYS	3.1
1	H	243	VAL	3.1
1	G	32	VAL	3.1
1	H	124	ASN	3.1
1	K	164	ASN	3.0
1	F	71	SER	3.0
1	L	172	GLU	3.0
1	L	144	ALA	3.0
1	J	207	ILE	3.0
1	L	212	PHE	3.0
1	L	179	VAL	3.0
1	L	22	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
1	I	59	ILE	3.0
1	L	93	THR	2.9
1	K	35	SER	2.9
1	L	98	LYS	2.9
1	F	229	PHE	2.9
1	D	0	SER	2.9
1	H	141	HIS	2.9
1	B	167	LYS	2.9
1	K	45	VAL	2.9
1	A	166	ALA	2.9
1	K	232	GLN	2.9
1	L	127	VAL	2.9
1	H	162	SER	2.9
1	G	89	ALA	2.9
1	H	188	ILE	2.9
1	J	56	ILE	2.9
1	E	205	GLN	2.8
1	J	89	ALA	2.8
1	H	150	ILE	2.8
1	D	207	ILE	2.8
1	F	67	GLN	2.8
1	H	209	HIS	2.8
1	K	228	LEU	2.8
1	L	157	SER	2.7
1	K	163	LYS	2.7
1	L	255	THR	2.7
1	F	172	GLU	2.7
1	G	196	VAL	2.7
1	D	182	ARG	2.7
1	H	149	ALA	2.7
1	C	171	VAL	2.7
1	L	100	ARG	2.7
1	G	255	THR	2.7
1	G	173	ILE	2.7
1	D	171	VAL	2.7
1	G	94	GLY	2.7
1	L	1	LEU	2.7
1	E	163	LYS	2.6
1	C	168	LEU	2.6
1	F	163	LYS	2.6
1	E	103	VAL	2.6
1	D	165	THR	2.6

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Mol	Chain	Res	Type	RSRZ
1	K	178	SER	2.6
1	I	5	ILE	2.6
1	I	11	HIS	2.6
1	J	218	LEU	2.6
1	C	148	GLY	2.6
1	H	13	TYR	2.6
1	H	142	LYS	2.6
1	G	174	ILE	2.6
1	H	179	VAL	2.6
1	L	132	THR	2.6
1	A	39	GLY	2.6
1	H	89	ALA	2.5
1	A	79	TYR	2.5
1	C	207	ILE	2.5
1	G	13	TYR	2.5
1	L	139	ILE	2.5
1	L	244	LEU	2.5
1	F	173	ILE	2.5
1	G	64	VAL	2.5
1	F	231	LYS	2.5
1	H	91	VAL	2.5
1	F	126	ILE	2.5
1	L	86	LEU	2.5
1	H	73	ARG	2.5
1	F	72	LEU	2.5
1	L	105	VAL	2.5
1	D	166	ALA	2.5
1	F	110	ILE	2.5
1	B	25	ARG	2.4
1	I	217	ILE	2.4
1	K	24	LEU	2.4
1	L	72	LEU	2.4
1	I	58	LYS	2.4
1	B	209	HIS	2.4
1	E	2	ILE	2.4
1	L	81	SER	2.4
1	J	213	ASN	2.3
1	L	90	GLY	2.3
1	G	219	ILE	2.3
1	I	155[A]	ARG	2.3
1	K	238	LEU	2.3
1	E	235	TYR	2.3

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Mol	Chain	Res	Type	RSRZ
1	L	32	VAL	2.3
1	I	38	LEU	2.3
1	L	161	LEU	2.3
1	I	70	TYR	2.3
1	A	63	SER	2.3
1	L	101	ASN	2.2
1	J	38	LEU	2.2
1	C	66	PRO	2.2
1	A	193	TYR	2.2
1	K	184	THR	2.2
1	H	55	THR	2.2
1	H	68	VAL	2.2
1	G	216	GLN	2.2
1	E	209[A]	HIS	2.2
1	L	49	ASN	2.2
1	G	86	LEU	2.2
1	E	67	GLN	2.2
1	H	165	THR	2.2
1	L	125	ILE	2.2
1	L	188	ILE	2.2
1	K	166	ALA	2.2
1	G	74	SER	2.2
1	K	190	SER	2.2
1	F	55	THR	2.2
1	E	174	ILE	2.2
1	G	251	ALA	2.2
1	H	244	LEU	2.2
1	J	1	LEU	2.2
1	K	173	ILE	2.2
1	K	185	ILE	2.2
1	K	70	TYR	2.2
1	D	170	SER	2.1
1	F	74	SER	2.1
1	G	118	HIS	2.1
1	K	244	LEU	2.1
1	J	164	ASN	2.1
1	G	17	PHE	2.1
1	I	40	ILE	2.1
1	B	227	SER	2.1
1	A	68	VAL	2.1
1	G	41	PHE	2.1
1	J	70	TYR	2.1

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Mol	Chain	Res	Type	RSRZ
1	L	229	PHE	2.1
1	E	61	ILE	2.1
1	A	170	SER	2.1
1	I	96	ASN	2.1
1	H	208	HIS	2.1
1	H	210	GLU	2.1
1	J	162	SER	2.1
1	L	23	LYS	2.1
1	H	163	LYS	2.1
1	E	229	PHE	2.0
1	E	170	SER	2.0
1	G	72	LEU	2.0
1	E	117	THR	2.0
1	I	82	ILE	2.0
1	I	204	ILE	2.0
1	K	103	VAL	2.0
1	H	122	ASN	2.0
1	H	223	GLY	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 carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	RSR	LLDF	B-factors(Å ²)	Q<0.9
2	GOL	A	265	6/6	0.19	0.87	57,74,86,98	0
2	GOL	H	266	6/6	0.23	0.31	69,76,85,96	0
2	GOL	C	265	6/6	0.19	-0.02	47,55,76,79	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
2	GOL	J	265	6/6	0.22	-0.14	61,84,87,91	0
2	GOL	L	265	6/6	0.20	-0.22	72,83,91,96	0
2	GOL	H	265	6/6	0.18	-0.35	76,84,104,108	0
2	GOL	E	265	6/6	0.13	-0.82	39,43,46,55	0
2	GOL	A	266	6/6	0.16	-1.05	60,68,70,71	0
2	GOL	B	265	6/6	0.11	-1.36	34,58,64,66	0
2	GOL	E	266	6/6	0.11	-1.39	46,67,71,86	0
2	GOL	C	266	6/6	0.14	-2.86	51,62,70,74	0

6.5 Other polymers ⓘ

There are no such residues in this entry.