



# Full wwPDB X-ray Structure Validation Report ⓘ

Jan 31, 2016 – 11:40 PM GMT

PDB ID : 1Y8N  
Title : Crystal structure of the PDK3-L2 complex  
Authors : Kato, M.; Chuang, J.L.; Wynn, R.M.; Chuang, D.T.  
Deposited on : 2004-12-13  
Resolution : 2.60 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Refmac : 5.8.0135  
CCP4 : 6.5.0  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

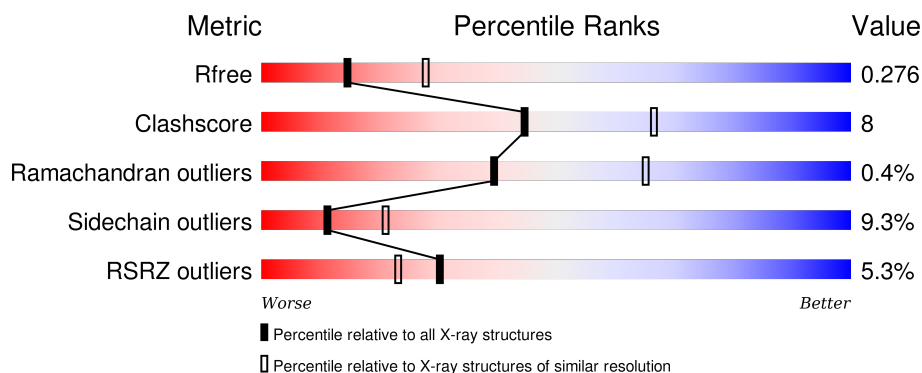
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.60 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))
$R_{free}$	91344	2328 (2.60-2.60)
Clashscore	102246	2679 (2.60-2.60)
Ramachandran outliers	100387	2635 (2.60-2.60)
Sidechain outliers	100360	2635 (2.60-2.60)
RSRZ outliers	91569	2334 (2.60-2.60)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	419	<div> <div>5%</div> <div> <div></div> <div>71%</div> <div>13%</div> <div>•</div> <div>11%</div> </div> </div>
2	B	128	<div> <div>4%</div> <div> <div></div> <div>52%</div> <div>23%</div> <div>24%</div> </div> </div>

## 2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 3867 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 [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	374	3066	1977	510	566	13	0	1	0

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-12	GLY	-	CLONING ARTIFACT	UNP Q15120
A	-11	GLY	-	CLONING ARTIFACT	UNP Q15120
A	-10	SER	-	CLONING ARTIFACT	UNP Q15120
A	-9	HIS	-	CLONING ARTIFACT	UNP Q15120
A	-8	HIS	-	EXPRESSION TAG	UNP Q15120
A	-7	HIS	-	EXPRESSION TAG	UNP Q15120
A	-6	HIS	-	EXPRESSION TAG	UNP Q15120
A	-5	HIS	-	EXPRESSION TAG	UNP Q15120
A	-4	HIS	-	EXPRESSION TAG	UNP Q15120
A	-3	GLY	-	EXPRESSION TAG	UNP Q15120
A	-2	MET	-	CLONING ARTIFACT	UNP Q15120
A	-1	ALA	-	CLONING ARTIFACT	UNP Q15120
A	0	ARG	-	CLONING ARTIFACT	UNP Q15120
A	1	LEU	-	CLONING ARTIFACT	UNP Q15120
A	2	GLU	-	CLONING ARTIFACT	UNP Q15120
A	3	ASN	-	CLONING ARTIFACT	UNP Q15120
A	4	LEU	-	CLONING ARTIFACT	UNP Q15120
A	5	TYR	-	CLONING ARTIFACT	UNP Q15120
A	6	PHE	-	CLONING ARTIFACT	UNP Q15120
A	7	GLN	-	CLONING ARTIFACT	UNP Q15120
A	8	GLY	-	CLONING ARTIFACT	UNP Q15120

- Molecule 2 is a protein called Dihydrolipoyllysine-residue acetyltransferase component of pyruvate dehydrogenase complex.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	97	Total	C	N	O	S	0	0	0
			736	471	115	146	4			

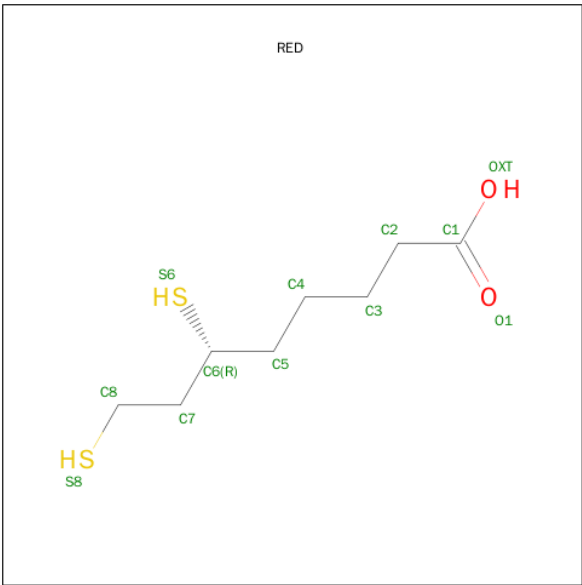
There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	106	GLY	-	CLONING ARTIFACT	UNP P10515
B	107	GLY	-	CLONING ARTIFACT	UNP P10515
B	108	SER	-	CLONING ARTIFACT	UNP P10515
B	109	HIS	-	EXPRESSION TAG	UNP P10515
B	110	HIS	-	EXPRESSION TAG	UNP P10515
B	111	HIS	-	EXPRESSION TAG	UNP P10515
B	112	HIS	-	EXPRESSION TAG	UNP P10515
B	113	HIS	-	EXPRESSION TAG	UNP P10515
B	114	HIS	-	EXPRESSION TAG	UNP P10515
B	115	GLY	-	CLONING ARTIFACT	UNP P10515
B	116	MET	-	CLONING ARTIFACT	UNP P10515
B	117	ALA	-	CLONING ARTIFACT	UNP P10515
B	118	ARG	-	CLONING ARTIFACT	UNP P10515
B	119	LEU	-	CLONING ARTIFACT	UNP P10515
B	120	GLU	-	CLONING ARTIFACT	UNP P10515
B	121	ASN	-	CLONING ARTIFACT	UNP P10515
B	122	LEU	-	CLONING ARTIFACT	UNP P10515
B	123	TYR	-	CLONING ARTIFACT	UNP P10515
B	124	PHE	-	CLONING ARTIFACT	UNP P10515
B	125	GLN	-	CLONING ARTIFACT	UNP P10515

- Molecule 3 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	K	0	0
			1	1		

- Molecule 4 is DIHYDROLIPOIC ACID (three-letter code: RED) (formula: C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>S<sub>2</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	B	1	Total	C	O	S	0	0
			11	8	1	2		

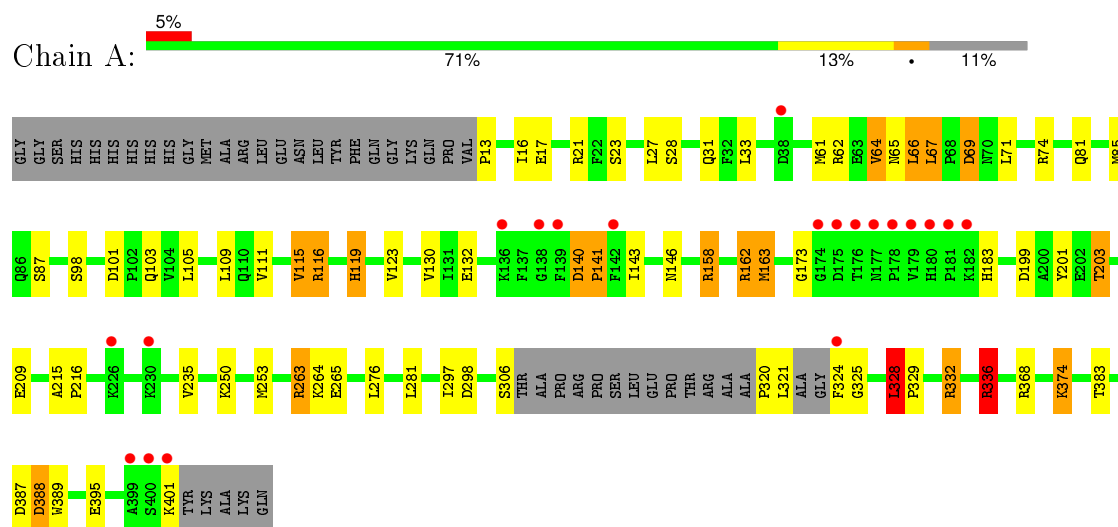
- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	48	Total	O	0	0
			48	48		
5	B	5	Total	O	0	0
			5	5		

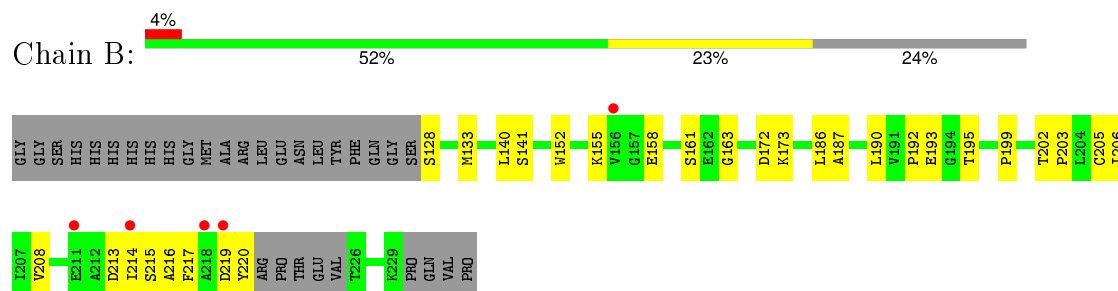
### 3 Residue-property plots

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: [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 3



- Molecule 2: Dihydrolipoyllysine-residue acetyltransferase component of pyruvate dehydrogenase complex



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 65 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	120.81Å 120.81Å 238.59Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	43.69 – 2.60 43.70 – 2.60	Depositor EDS
% Data completeness (in resolution range)	100.0 (43.69-2.60) 100.0 (43.70-2.60)	Depositor EDS
$R_{merge}$	0.05	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.96 (at 2.61Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, $R_{free}$	0.210 , 0.248 0.238 , 0.276	Depositor DCC
$R_{free}$ test set	1645 reflections (5.34%)	DCC
Wilson B-factor (Å <sup>2</sup> )	61.8	Xtriage
Anisotropy	0.052	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.35 , 42.0	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtriage
Outliers	0 of 32450 reflections	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	3867	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	62.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.32% of the height of the origin peak. No significant pseudotranslation is detected.*

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

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 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: K, RED

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	0/3145	0.83	4/4257 (0.1%)
2	B	0.75	1/749 (0.1%)	0.84	1/1017 (0.1%)
All	All	0.81	1/3894 (0.0%)	0.83	5/5274 (0.1%)

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
2	B	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	172	ASP	CB-CG	-5.06	1.41	1.51

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	172	ASP	N-CA-CB	-7.33	97.41	110.60
1	A	388	ASP	N-CA-CB	-6.39	99.09	110.60
1	A	336	ARG	NE-CZ-NH1	6.14	123.37	120.30
1	A	387	ASP	C-N-CA	5.18	134.66	121.70
1	A	328	LEU	CA-CB-CG	5.03	126.86	115.30

There are no chirality outliers.

All (1) planarity outliers are listed below:



Mol	Chain	Res	Type	Group
2	B	128	SER	Peptide

## 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	3066	0	3029	42	0
2	B	736	0	727	19	0
3	A	1	0	0	0	0
4	B	11	0	15	5	0
5	A	48	0	0	3	0
5	B	5	0	0	0	0
All	All	3867	0	3771	60	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 8.

All (60) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:173:LYS:HZ3	4:B:373:RED:C1	1.27	1.44
2:B:173:LYS:NZ	4:B:373:RED:C1	1.77	1.43
2:B:173:LYS:HZ2	4:B:373:RED:C1	1.63	0.92
1:A:162:ARG:HH11	1:A:162:ARG:HB2	1.40	0.85
2:B:208:VAL:HG11	2:B:213:ASP:HB2	1.60	0.82
1:A:276:LEU:HD13	1:A:281:LEU:HD23	1.63	0.81
1:A:141:PRO:HA	5:A:540:HOH:O	1.85	0.74
1:A:123:VAL:HG23	1:A:158:ARG:HE	1.52	0.71
1:A:368:ARG:HB3	5:A:536:HOH:O	1.90	0.70
1:A:101:ASP:OD1	1:A:103:GLN:HB2	1.93	0.69
1:A:320:PRO:O	1:A:321:LEU:HB2	1.95	0.66
1:A:332:ARG:HD2	5:A:523:HOH:O	1.95	0.65
1:A:28:SER:H	1:A:31:GLN:HE21	1.45	0.63
1:A:17:GLU:HB3	1:A:21:ARG:HH21	1.65	0.62
2:B:217:PHE:C	2:B:219:ASP:H	2.05	0.59
1:A:67:LEU:HG	1:A:71:LEU:HD23	1.83	0.59
1:A:111:VAL:O	1:A:115:VAL:HG13	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:263:ARG:HB3	1:A:265:GLU:HG2	1.84	0.58
1:A:61:MET:HA	1:A:64:VAL:HG13	1.86	0.57
1:A:16:ILE:HD11	1:A:85:MET:SD	2.45	0.57
2:B:173:LYS:NZ	4:B:373:RED:O1	2.23	0.56
1:A:69:ASP:OD2	1:A:69:ASP:N	2.38	0.56
2:B:190:LEU:HD23	2:B:203:PRO:HB2	1.88	0.55
1:A:215:ALA:HB1	1:A:253:MET:HE2	1.89	0.55
1:A:332:ARG:O	1:A:336:ARG:HG2	2.06	0.55
1:A:123:VAL:CG2	1:A:158:ARG:HE	2.18	0.55
1:A:64:VAL:HA	1:A:67:LEU:HD22	1.89	0.55
1:A:201:TYR:OH	1:A:216:PRO:O	2.17	0.54
1:A:116:ARG:HG2	1:A:162:ARG:NH2	2.23	0.54
2:B:152:TRP:HD1	2:B:193:GLU:HG2	1.71	0.54
2:B:199:PRO:HD2	2:B:202:THR:OG1	2.08	0.53
1:A:306:SER:OG	1:A:325:GLY:HA3	2.11	0.50
2:B:190:LEU:HD13	2:B:205:CYS:HA	1.93	0.50
1:A:297:ILE:HG22	1:A:298:ASP:N	2.25	0.49
1:A:199:ASP:O	1:A:203:THR:HG23	2.14	0.48
1:A:87:SER:OG	1:A:119:HIS:HE1	1.96	0.47
1:A:87:SER:OG	1:A:119:HIS:CE1	2.67	0.47
1:A:140:ASP:C	1:A:140:ASP:OD2	2.53	0.47
1:A:140:ASP:CG	1:A:141:PRO:HD2	2.35	0.47
1:A:74:ARG:HD3	1:A:132:GLU:HB3	1.95	0.47
1:A:33:LEU:HD22	1:A:235:VAL:HG11	1.98	0.46
1:A:162:ARG:NH1	1:A:162:ARG:HB2	2.20	0.46
1:A:17:GLU:HB3	1:A:21:ARG:NH2	2.28	0.46
2:B:155:LYS:HB2	2:B:158:GLU:HG3	1.98	0.44
1:A:374:LYS:HG3	2:B:163:GLY:HA3	1.99	0.44
2:B:192:PRO:HD2	2:B:195:THR:OG1	2.18	0.44
1:A:62:ARG:O	1:A:66:LEU:HD22	2.18	0.44
2:B:190:LEU:CD2	2:B:203:PRO:HB2	2.49	0.43
2:B:173:LYS:CE	4:B:373:RED:C1	2.84	0.43
1:A:140:ASP:CG	1:A:143:ILE:HD12	2.39	0.43
2:B:217:PHE:C	2:B:219:ASP:N	2.72	0.43
1:A:388:ASP:HB3	1:A:389:TRP:CD1	2.53	0.43
1:A:65:ASN:OD1	1:A:81:GLN:NE2	2.51	0.43
1:A:109:LEU:HD21	1:A:173:GLY:HA2	2.02	0.42
2:B:208:VAL:CG1	2:B:213:ASP:HB2	2.39	0.41
1:A:328:LEU:N	1:A:329:PRO:CD	2.84	0.40
2:B:187:ALA:HA	2:B:214:ILE:HG23	2.02	0.40
1:A:163:MET:CE	1:A:163:MET:HA	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:123:VAL:HG23	1:A:158:ARG:NE	2.26	0.40
2:B:190:LEU:HD11	2:B:206:ILE:CD1	2.51	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	369/419 (88%)	357 (97%)	11 (3%)	1 (0%)	46	72
2	B	93/128 (73%)	85 (91%)	7 (8%)	1 (1%)	17	36
All	All	462/547 (84%)	442 (96%)	18 (4%)	2 (0%)	39	65

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	141	PRO
2	B	216	ALA

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	341/374 (91%)	309 (91%)	32 (9%)	11	20
2	B	79/109 (72%)	72 (91%)	7 (9%)	12	23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	420/483 (87%)	381 (91%)	39 (9%)	11	21

All (39) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	PRO
1	A	23	SER
1	A	27	LEU
1	A	64	VAL
1	A	66	LEU
1	A	67	LEU
1	A	69	ASP
1	A	98	SER
1	A	105	LEU
1	A	115	VAL
1	A	116	ARG
1	A	119	HIS
1	A	130	VAL
1	A	140	ASP
1	A	146	ASN
1	A	158	ARG
1	A	162	ARG
1	A	163	MET
1	A	183	HIS
1	A	203	THR
1	A	209	GLU
1	A	250	LYS
1	A	263	ARG
1	A	264	LYS
1	A	324	PHE
1	A	328	LEU
1	A	332	ARG
1	A	336	ARG
1	A	374	LYS
1	A	383	THR
1	A	395	GLU
1	A	401	LYS
2	B	133	MET
2	B	140	LEU
2	B	141	SER
2	B	161	SER
2	B	186	LEU

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Mol	Chain	Res	Type
2	B	215	SER
2	B	220	TYR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	31	GLN
1	A	39	ASN
1	A	70	ASN
1	A	73	ASN
1	A	81	GLN
1	A	86	GLN
1	A	119	HIS
1	A	128	GLN
1	A	146	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 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
4	RED	B	373	-	8,10,11	0.44	0	4,10,12	1.65	1 (25%)

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
4	RED	B	373	-	-	0/6/9/10	0/0/0/0

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	373	RED	C7-C6-C5	-2.78	106.77	113.91

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	373	RED	5	0

## 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, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	374/419 (89%)	0.41	20 (5%) 30 23	43, 58, 82, 118	0
2	B	97/128 (75%)	0.28	5 (5%) 31 24	46, 66, 108, 118	0
All	All	471/547 (86%)	0.38	25 (5%) 30 23	43, 60, 91, 118	0

All (25) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	176	THR	6.1
1	A	324	PHE	5.2
1	A	139	PHE	4.9
1	A	177	ASN	4.6
1	A	179	VAL	4.2
1	A	180	HIS	3.4
2	B	219	ASP	3.2
1	A	401	LYS	3.1
1	A	178	PRO	3.1
1	A	400	SER	3.0
1	A	399	ALA	3.0
1	A	174	GLY	2.8
1	A	142	PHE	2.6
1	A	175	ASP	2.6
1	A	138	GLY	2.4
2	B	218	ALA	2.4
1	A	182	LYS	2.3
2	B	156	VAL	2.2
1	A	38	ASP	2.2
1	A	230	LYS	2.2
1	A	226	LYS	2.1
1	A	136	LYS	2.1
2	B	211	GLU	2.1
1	A	181	PRO	2.0

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Mol	Chain	Res	Type	RSRZ
2	B	214	ILE	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 6.4 Ligands [i](#)

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, 95<sup>th</sup> 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
4	RED	B	373	11/12	0.96	0.21	0.10	67,72,75,77	0
3	K	A	501	1/1	0.93	0.20	-0.87	71,71,71,71	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.