



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 24, 2023 – 02:06 PM EDT

PDB ID : 5U5P
Title : Crystal Structure and X-ray Diffraction Data Collection of Importin-alpha from Mus Musculus Complexed with a MLH1 NLS Peptide
Authors : Barros, A.C.; Takeda, A.A.; Dreyer, T.R.; Velazquez-Campoy, A.; Kobe, B.; Fontes, M.R.
Deposited on : 2016-12-07
Resolution : 2.17 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

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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 : 2.35.1
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) : 2.35.1

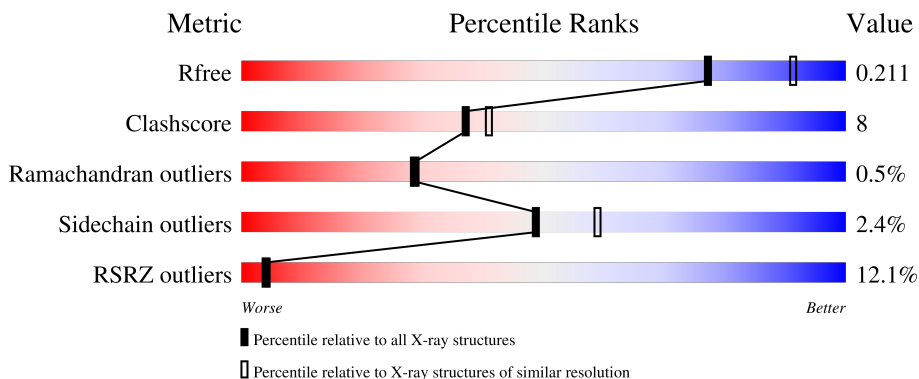
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.17 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	6864 (2.20-2.16)
Clashscore	141614	7689 (2.20-2.16)
Ramachandran outliers	138981	7564 (2.20-2.16)
Sidechain outliers	138945	7564 (2.20-2.16)
RSRZ outliers	127900	6738 (2.20-2.16)

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 $\leq 5\%$. 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	B	10	 10% 60% 40%
1	C	10	 30% 60% 30% 10%
2	A	510	 10% 70% 13% 16%

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 3643 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 DNA mismatch repair protein Mlh1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
1	C	9	77	45	22	10	0	0	0
1	B	10	87	50	22	15	0	0	0

- Molecule 2 is a protein called Importin subunit alpha-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	A	426	3247	2069	553	615	10	0	1	0

There are 50 discrepancies between the modelled and reference sequences:

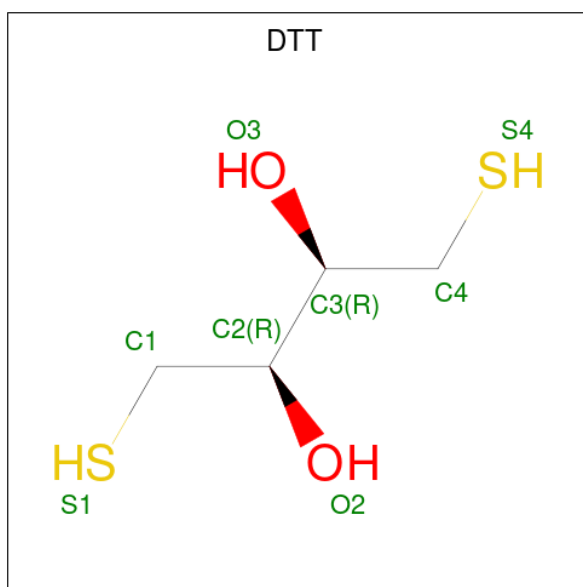
Chain	Residue	Modelled	Actual	Comment	Reference
A	20	MET	-	initiating methionine	UNP P52293
A	21	HIS	-	expression tag	UNP P52293
A	22	HIS	-	expression tag	UNP P52293
A	23	HIS	-	expression tag	UNP P52293
A	24	HIS	-	expression tag	UNP P52293
A	25	HIS	-	expression tag	UNP P52293
A	26	HIS	-	expression tag	UNP P52293
A	27	SER	-	expression tag	UNP P52293
A	28	SER	-	expression tag	UNP P52293
A	29	GLY	-	expression tag	UNP P52293
A	30	LEU	-	expression tag	UNP P52293
A	31	VAL	-	expression tag	UNP P52293
A	32	PRO	-	expression tag	UNP P52293
A	33	ARG	-	expression tag	UNP P52293
A	34	GLY	-	expression tag	UNP P52293
A	35	SER	-	expression tag	UNP P52293
A	36	GLY	-	expression tag	UNP P52293
A	37	MET	-	expression tag	UNP P52293

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Chain	Residue	Modelled	Actual	Comment	Reference
A	38	LYS	-	expression tag	UNP P52293
A	39	GLU	-	expression tag	UNP P52293
A	40	THR	-	expression tag	UNP P52293
A	41	ALA	-	expression tag	UNP P52293
A	42	ALA	-	expression tag	UNP P52293
A	43	ALA	-	expression tag	UNP P52293
A	44	LYS	-	expression tag	UNP P52293
A	45	PHE	-	expression tag	UNP P52293
A	46	GLU	-	expression tag	UNP P52293
A	47	ARG	-	expression tag	UNP P52293
A	48	GLN	-	expression tag	UNP P52293
A	49	HIS	-	expression tag	UNP P52293
A	50	MET	-	expression tag	UNP P52293
A	51	ASP	-	expression tag	UNP P52293
A	52	SER	-	expression tag	UNP P52293
A	53	PRO	-	expression tag	UNP P52293
A	54	ASP	-	expression tag	UNP P52293
A	55	LEU	-	expression tag	UNP P52293
A	56	GLY	-	expression tag	UNP P52293
A	57	THR	-	expression tag	UNP P52293
A	58	ASP	-	expression tag	UNP P52293
A	59	ASP	-	expression tag	UNP P52293
A	60	ASP	-	expression tag	UNP P52293
A	61	ASP	-	expression tag	UNP P52293
A	62	LYS	-	expression tag	UNP P52293
A	63	ALA	-	expression tag	UNP P52293
A	64	MET	-	expression tag	UNP P52293
A	65	ALA	-	expression tag	UNP P52293
A	66	ASP	-	expression tag	UNP P52293
A	67	ILE	-	expression tag	UNP P52293
A	68	GLY	-	expression tag	UNP P52293
A	69	SER	-	expression tag	UNP P52293

- Molecule 3 is 2,3-DIHYDROXY-1,4-DITHIOBUTANE (three-letter code: DTT) (formula: C₄H₁₀O₂S₂).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	O	S	0	0
			8	4	2	2		

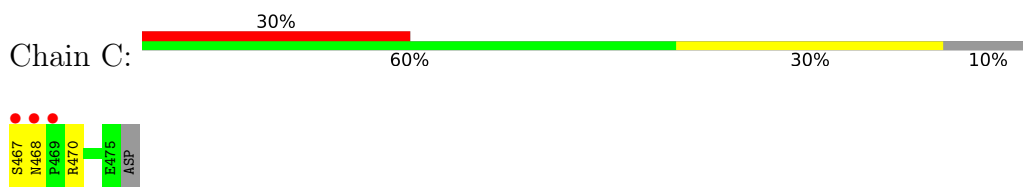
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	C	4	Total	O	0	0
			4	4		
4	B	9	Total	O	0	0
			9	9		
4	A	211	Total	O	0	0
			211	211		

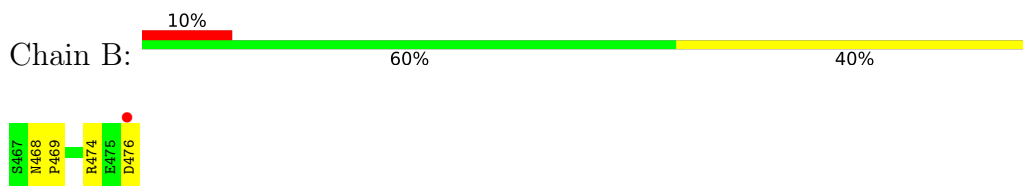
3 Residue-property plots

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.

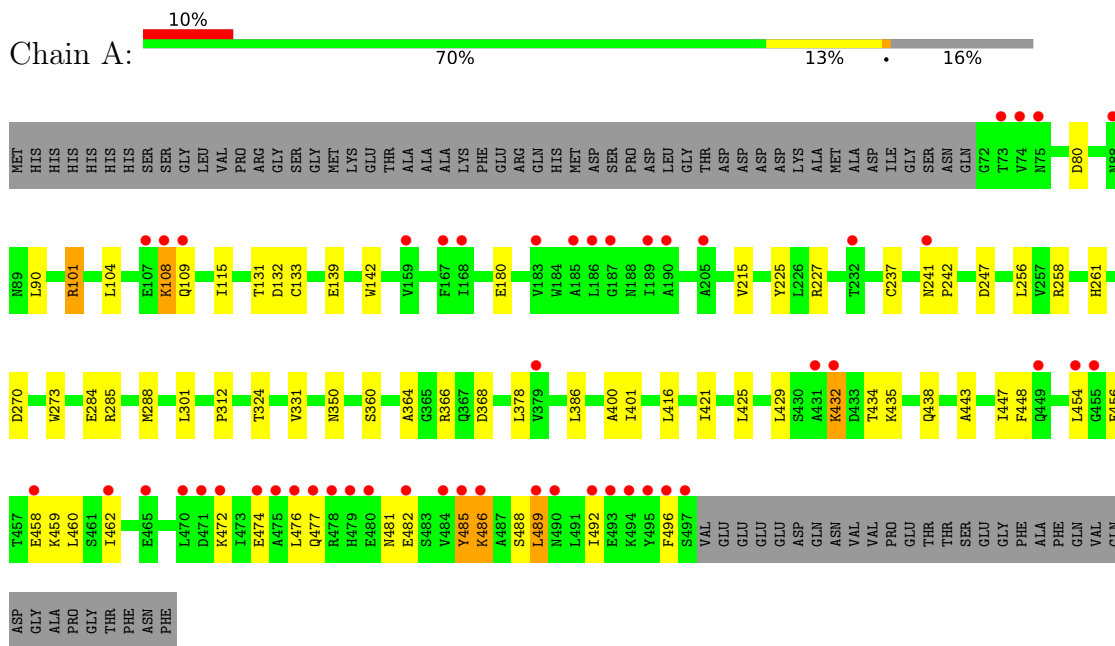
- Molecule 1: DNA mismatch repair protein Mlh1



- Molecule 1: DNA mismatch repair protein Mlh1



- Molecule 2: Importin subunit alpha-1



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	77.22Å 89.07Å 99.14Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.58 – 2.17 38.58 – 2.17	Depositor EDS
% Data completeness (in resolution range)	99.5 (38.58-2.17) 99.5 (38.58-2.17)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.92 (at 2.18Å)	Xtrriage
Refinement program	PHENIX (1.10.1_2155)	Depositor
R, R_{free}	0.181 , 0.211 0.181 , 0.211	Depositor DCC
R_{free} test set	1827 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	36.9	Xtrriage
Anisotropy	0.394	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 43.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	3643	wwPDB-VP
Average B, all atoms (Å ²)	45.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.80% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: DTT

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	B	0.38	0/88	0.77	0/115
1	C	0.42	0/78	0.65	0/102
2	A	0.42	1/3308 (0.0%)	0.58	1/4508 (0.0%)
All	All	0.42	1/3474 (0.0%)	0.59	1/4725 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	237	CYS	CB-SG	-6.14	1.71	1.82

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	489	LEU	CA-CB-CG	8.73	135.39	115.30

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	B	87	0	82	4	0
1	C	77	0	78	2	0
2	A	3247	0	3326	50	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	8	0	10	3	0
4	A	211	0	0	6	0
4	B	9	0	0	0	0
4	C	4	0	0	0	0
All	All	3643	0	3496	54	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 (54) 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:A:456:GLU:OE1	2:A:459:LYS:NZ	1.68	1.27
2:A:456:GLU:OE1	2:A:459:LYS:CE	1.91	1.17
2:A:456:GLU:OE1	2:A:459:LYS:HE2	1.64	0.95
2:A:80:ASP:OD2	4:A:701:HOH:O	2.05	0.74
2:A:386:LEU:HD21	2:A:425:LEU:HD13	1.71	0.73
1:B:474:ARG:NH2	1:B:476:ASP:OD1	2.25	0.66
2:A:474:GLU:O	2:A:477:GLN:HB2	1.97	0.65
2:A:350:ASN:ND2	4:A:702:HOH:O	2.25	0.59
2:A:477:GLN:HE21	2:A:489:LEU:HA	1.69	0.57
2:A:435:LYS:NZ	4:A:706:HOH:O	2.37	0.56
2:A:101:ARG:HD3	2:A:139:GLU:OE1	2.06	0.55
2:A:180:GLU:HB2	2:A:225:TYR:CD1	2.42	0.55
2:A:456:GLU:HB3	2:A:459:LYS:HE2	1.90	0.52
2:A:366:ARG:HD2	2:A:368:ASP:OD1	2.10	0.52
2:A:477:GLN:NE2	2:A:492:ILE:HD12	2.25	0.52
2:A:273:TRP:CD2	2:A:312:PRO:HB3	2.45	0.51
2:A:482:GLU:O	2:A:485:TYR:HB3	2.14	0.48
2:A:486:LYS:C	2:A:486:LYS:HD2	2.35	0.47
3:A:601:DTT:H2	4:A:859:HOH:O	2.15	0.47
1:B:468:ASN:HB3	1:B:469:PRO:HD2	1.97	0.47
2:A:458:GLU:O	2:A:462:ILE:HG13	2.14	0.47
2:A:284:GLU:O	2:A:288:MET:HG3	2.15	0.46
2:A:434:THR:O	2:A:438:GLN:HG3	2.15	0.46
2:A:481:ASN:O	2:A:485:TYR:HB2	2.16	0.45
1:C:467:SER:HB3	2:A:324:THR:HG22	1.97	0.45
2:A:215:VAL:O	2:A:258[A]:ARG:NH2	2.50	0.45
2:A:477:GLN:CD	2:A:492:ILE:HD12	2.37	0.45
2:A:241:ASN:HA	2:A:242:PRO:HA	1.67	0.44
2:A:301:LEU:HD23	2:A:301:LEU:HA	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:284:GLU:OE2	2:A:284:GLU:N	2.39	0.44
2:A:261:HIS:HE1	4:A:871:HOH:O	2.00	0.44
1:C:470:ARG:HB3	2:A:364:ALA:HB1	2.00	0.44
2:A:90:LEU:HD21	2:A:133:CYS:HB2	2.01	0.43
2:A:132:ASP:OD1	2:A:132:ASP:N	2.45	0.43
2:A:360:SER:HA	2:A:400:ALA:HA	2.00	0.43
1:B:476:ASP:HB3	2:A:142:TRP:CZ2	2.54	0.43
1:B:474:ARG:HE	1:B:476:ASP:CB	2.31	0.43
2:A:472:LYS:O	2:A:476:LEU:HG	2.19	0.43
2:A:492:ILE:HA	2:A:496:PHE:HD2	1.84	0.42
2:A:270:ASP:OD2	3:A:601:DTT:H3	2.19	0.42
2:A:454:LEU:HB3	2:A:456:GLU:HG3	2.01	0.42
2:A:421:ILE:O	2:A:425:LEU:HB2	2.19	0.42
2:A:459:LYS:H	2:A:459:LYS:HG2	1.43	0.42
2:A:443:ALA:O	2:A:447:ILE:HG13	2.19	0.42
2:A:448:PHE:CD1	2:A:460:LEU:HD23	2.54	0.41
2:A:227:ARG:HB3	3:A:601:DTT:H41	2.02	0.41
2:A:456:GLU:HB3	2:A:459:LYS:CE	2.50	0.41
2:A:378:LEU:HD23	2:A:378:LEU:HA	1.89	0.41
2:A:401:ILE:HD12	2:A:416:LEU:HD11	2.02	0.41
2:A:104:LEU:HD21	2:A:115:ILE:HG13	2.01	0.41
2:A:432:LYS:HD3	2:A:432:LYS:C	2.41	0.41
2:A:285:ARG:HD2	4:A:779:HOH:O	2.20	0.41
2:A:108:LYS:HG2	2:A:109:GLN:HG3	2.02	0.40
2:A:429:LEU:HD22	2:A:476:LEU:HD11	2.03	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	B	8/10 (80%)	7 (88%)	1 (12%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	7/10 (70%)	6 (86%)	0	1 (14%)	0	0
2	A	425/510 (83%)	417 (98%)	7 (2%)	1 (0%)	47	52
All	All	440/530 (83%)	430 (98%)	8 (2%)	2 (0%)	29	28

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	485	TYR
1	C	468	ASN

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	B	9/10 (90%)	9 (100%)	0	100	100
1	C	8/10 (80%)	8 (100%)	0	100	100
2	A	356/426 (84%)	347 (98%)	9 (2%)	47	57
All	All	373/446 (84%)	364 (98%)	9 (2%)	49	59

All (9) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	101	ARG
2	A	108	LYS
2	A	131	THR
2	A	247	ASP
2	A	256	LEU
2	A	331	VAL
2	A	432	LYS
2	A	486	LYS
2	A	488	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
2	A	477	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	DTT	A	601	-	7,7,7	0.49	0	4,8,8	0.60	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
3	DTT	A	601	-	-	4/8/8/8	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	601	DTT	S1-C1-C2-O2
3	A	601	DTT	S1-C1-C2-C3
3	A	601	DTT	C2-C3-C4-S4
3	A	601	DTT	O3-C3-C4-S4

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	601	DTT	3	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, 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	B	10/10 (100%)	0.63	1 (10%) 7 7	34, 42, 57, 65	0
1	C	9/10 (90%)	1.04	3 (33%) 0 0	46, 54, 61, 66	0
2	A	426/510 (83%)	0.55	50 (11%) 4 4	28, 39, 80, 108	0
All	All	445/530 (83%)	0.56	54 (12%) 4 4	28, 39, 80, 108	0

All (54) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	A	489	LEU	9.1
2	A	485	TYR	8.8
2	A	496	PHE	6.3
2	A	74	VAL	6.2
2	A	476	LEU	6.1
2	A	455	GLY	5.0
2	A	478	ARG	4.8
2	A	493	GLU	4.4
2	A	474	GLU	4.3
2	A	492	ILE	4.1
1	C	467	SER	4.0
2	A	107	GLU	4.0
2	A	475	ALA	4.0
2	A	454	LEU	3.9
2	A	477	GLN	3.8
2	A	482	GLU	3.8
2	A	108	LYS	3.7
2	A	432	LYS	3.6
2	A	471	ASP	3.6
1	B	476	ASP	3.6
2	A	88	ASN	3.6
2	A	458	GLU	3.5
2	A	189	ILE	3.4

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Mol	Chain	Res	Type	RSRZ
2	A	186	LEU	3.4
2	A	486	LYS	3.3
2	A	494	LYS	3.2
2	A	480	GLU	3.0
2	A	470	LEU	2.9
2	A	472	LYS	2.9
2	A	490	ASN	2.8
2	A	497	SER	2.8
2	A	431	ALA	2.7
1	C	469	PRO	2.7
2	A	479	HIS	2.6
2	A	167	PHE	2.6
1	C	468	ASN	2.6
2	A	484	VAL	2.5
2	A	232	THR	2.5
2	A	168	ILE	2.5
2	A	185	ALA	2.5
2	A	190	ALA	2.4
2	A	109	GLN	2.4
2	A	187	GLY	2.4
2	A	495	TYR	2.4
2	A	75	ASN	2.3
2	A	183	VAL	2.3
2	A	449	GLN	2.3
2	A	73	THR	2.2
2	A	379	VAL	2.2
2	A	465	GLU	2.2
2	A	159	VAL	2.1
2	A	241	ASN	2.1
2	A	462	ILE	2.0
2	A	205	ALA	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 monosaccharides 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. 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	DTT	A	601	8/8	0.79	0.29	49,52,66,75	0

6.5 Other polymers [i](#)

There are no such residues in this entry.