



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 4, 2026 – 03:47 PM JST

PDB ID : 9WOY / pdb_00009woy
Title : Crystal Structure of the MLH1 Protein Bound to the FAN1 Peptide
Authors : Chen, Y.C.; Liu, Y.L.; Shang, X.C.
Deposited on : 2025-09-07
Resolution : 2.28 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	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.50

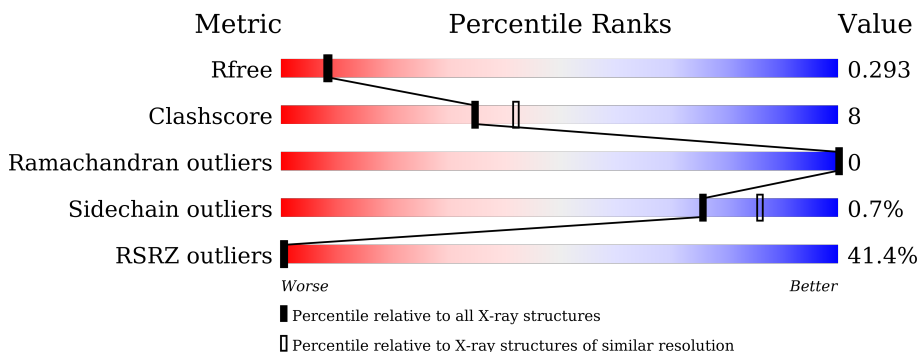
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.28 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}	180053	9078 (2.30-2.26)
Clashscore	190562	9802 (2.30-2.26)
Ramachandran outliers	187476	9690 (2.30-2.26)
Sidechain outliers	187428	9691 (2.30-2.26)
RSRZ outliers	180081	9085 (2.30-2.26)

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	A	257	18% 81% 14% 5%
1	B	257	54% 75% 14% 10%
2	C	18	61% 83% 6% 11%
2	D	18	67% 39% 28% 33%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 4270 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
1	A	244	Total	C	N	O	S	0	0	0
			1991	1288	319	377	7			
1	B	231	Total	C	N	O	S	0	0	0
			1885	1229	296	353	7			

- Molecule 2 is a protein called Fanconi-associated nuclease 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	16	Total	C	N	O	S	0	0	0
			114	72	21	20	1			
2	D	12	Total	C	N	O	S	0	0	0
			80	51	13	15	1			

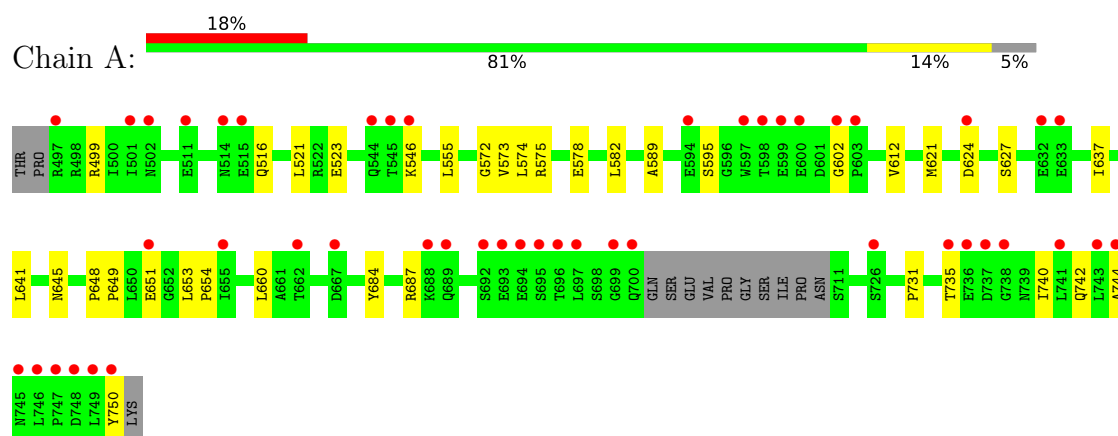
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	125	Total	O	0	0
			125	125		
3	B	73	Total	O	0	0
			73	73		
3	C	1	Total	O	0	0
			1	1		
3	D	1	Total	O	0	0
			1	1		

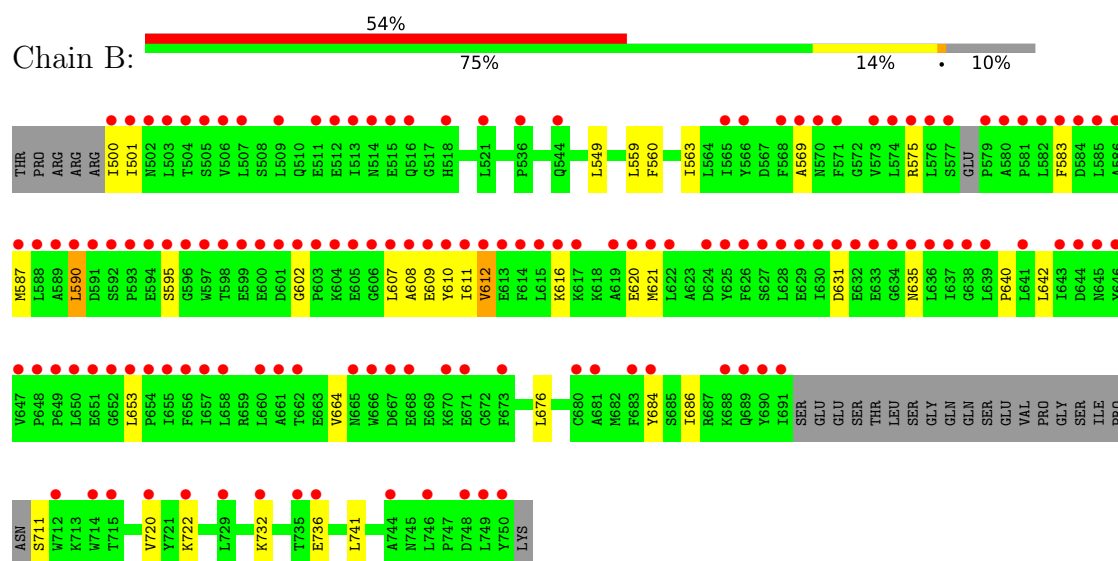
3 Residue-property plots [i](#)

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.

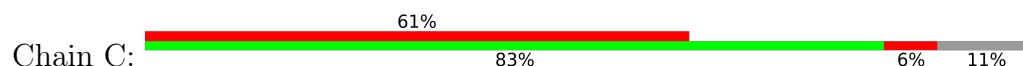
- Molecule 1: DNA mismatch repair protein Mlh1

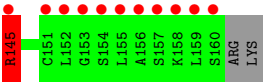


- Molecule 1: DNA mismatch repair protein Mlh1



- Molecule 2: Fanconi-associated nuclease 1





● Molecule 2: Fanconi-associated nuclease 1



4 Data and refinement statistics

Property	Value	Source
Space group	P 2 21 21	Depositor
Cell constants a, b, c, α , β , γ	43.02Å 60.15Å 250.54Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.08 – 2.28 30.08 – 2.28	Depositor EDS
% Data completeness (in resolution range)	99.2 (30.08-2.28) 99.1 (30.08-2.28)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.12 (at 2.27Å)	Xtriage
Refinement program	REFMAC 5.8.0430	Depositor
R, R_{free}	0.241 , 0.286 0.249 , 0.293	Depositor DCC
R_{free} test set	1581 reflections (5.12%)	wwPDB-VP
Wilson B-factor (Å ²)	22.8	Xtriage
Anisotropy	0.000	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 56.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.89	EDS
Total number of atoms	4270	wwPDB-VP
Average B, all atoms (Å ²)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.69% 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

5.1 Standard geometry

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	0.67	0/2039	0.91	4/2767 (0.1%)
1	B	0.69	3/1932 (0.2%)	0.97	5/2623 (0.2%)
2	C	0.51	0/113	0.86	0/149
2	D	0.91	0/79	1.29	0/105
All	All	0.68	3/4163 (0.1%)	0.94	9/5644 (0.2%)

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	C	0	1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	621	MET	C-N	6.51	1.42	1.33
1	B	620	GLU	C-N	-6.19	1.25	1.33
1	B	616	LYS	C-N	5.82	1.41	1.33

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	612	VAL	N-CA-C	6.59	116.75	110.42
1	A	578	GLU	CA-C-N	6.39	126.77	119.93
1	A	578	GLU	C-N-CA	6.39	126.77	119.93
1	A	602	GLY	CA-C-N	6.25	127.65	119.84
1	A	602	GLY	C-N-CA	6.25	127.65	119.84
1	B	602	GLY	CA-C-N	5.57	126.80	119.84
1	B	602	GLY	C-N-CA	5.57	126.80	119.84
1	B	616	LYS	O-C-N	5.13	129.20	122.33
1	B	722	LYS	N-CA-C	-5.09	105.81	111.36

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	C	145	ARG	Sidechain

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	1991	0	1958	24	0
1	B	1885	0	1857	31	0
2	C	114	0	133	1	0
2	D	80	0	91	15	0
3	A	125	0	0	6	0
3	B	73	0	0	5	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
All	All	4270	0	4039	61	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 (61) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:575:ARG:NE	2:D:147:VAL:HG11	1.56	1.20
1:B:575:ARG:HE	2:D:147:VAL:CG1	1.76	0.98
1:B:575:ARG:HE	2:D:147:VAL:HG11	1.13	0.97
1:B:575:ARG:NE	2:D:147:VAL:CG1	2.28	0.97
2:D:155:LEU:HD12	2:D:156:ALA:O	1.67	0.93
1:A:546:LYS:HG2	3:A:903:HOH:O	1.84	0.78
2:D:155:LEU:CD1	2:D:156:ALA:O	2.33	0.75
2:D:155:LEU:HD12	2:D:156:ALA:N	2.02	0.75
1:B:711:SER:N	3:B:801:HOH:O	2.20	0.75
1:B:575:ARG:CZ	2:D:147:VAL:HG11	2.19	0.73
1:A:521:LEU:HD11	1:A:735:THR:HG23	1.73	0.70
1:A:546:LYS:HD2	1:A:742:GLN:CD	2.18	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:686:ILE:HD11	1:B:720:VAL:HG21	1.77	0.66
1:B:640:PRO:O	1:B:684:TYR:OH	2.15	0.65
1:A:742:GLN:HE21	1:A:744:ALA:HB2	1.62	0.65
1:B:501:ILE:HD12	1:B:569:ALA:HB3	1.79	0.64
1:B:587:MET:HE3	1:B:587:MET:HA	1.83	0.59
1:A:645:ASN:HB3	3:A:901:HOH:O	2.04	0.56
1:B:590:LEU:HA	1:B:595:SER:CB	2.37	0.55
1:B:500:ILE:HG23	3:B:814:HOH:O	2.06	0.54
1:B:590:LEU:HA	1:B:595:SER:HB3	1.89	0.54
1:B:664:VAL:HG11	1:B:676:LEU:HG	1.89	0.54
1:B:549:LEU:HD23	1:B:741:LEU:HD12	1.90	0.53
2:D:155:LEU:HD12	2:D:155:LEU:C	2.34	0.53
1:B:501:ILE:CD1	1:B:569:ALA:HB3	2.39	0.53
1:B:642:LEU:HD12	1:B:684:TYR:CD2	2.45	0.51
1:A:750:TYR:O	3:A:801:HOH:O	2.20	0.50
1:B:583:PHE:HE1	1:B:609:GLU:HG2	1.76	0.50
1:A:645:ASN:ND2	3:A:804:HOH:O	2.33	0.49
1:B:559:LEU:O	1:B:563:ILE:HG13	2.13	0.49
1:A:523:GLU:HG2	3:A:910:HOH:O	2.13	0.49
1:A:573:VAL:HG22	1:A:627:SER:HB3	1.95	0.49
1:A:582:LEU:HB2	1:A:612:VAL:HG22	1.97	0.47
1:A:653:LEU:HB3	1:A:654:PRO:HD3	1.95	0.47
1:A:516:GLN:O	1:A:731:PRO:HA	2.15	0.46
2:D:155:LEU:HD12	2:D:156:ALA:C	2.37	0.46
1:B:610:TYR:O	3:B:802:HOH:O	2.21	0.45
1:B:653:LEU:HD23	1:B:653:LEU:HA	1.87	0.45
1:A:660:LEU:HD12	1:A:660:LEU:HA	1.80	0.44
1:B:608:ALA:O	1:B:612:VAL:HG23	2.16	0.44
1:A:651:GLU:H	1:A:651:GLU:CD	2.24	0.44
1:A:555:LEU:HD21	1:A:740:ILE:HD11	2.00	0.44
1:A:589:ALA:O	1:A:595:SER:HB3	2.17	0.44
1:A:621:MET:HE3	1:A:621:MET:HB3	1.82	0.43
1:B:607:LEU:O	1:B:611:ILE:HD13	2.17	0.43
1:B:575:ARG:HG3	2:D:147:VAL:HG13	2.00	0.43
1:B:732:LYS:HE2	1:B:736:GLU:OE1	2.18	0.42
1:B:631:ASP:C	3:B:816:HOH:O	2.61	0.42
1:A:574:LEU:HD21	1:A:641:LEU:HD13	2.00	0.42
2:D:152:LEU:HB3	2:D:155:LEU:HB3	2.01	0.42
1:A:575:ARG:HH11	1:A:637:ILE:HG13	1.86	0.41
1:A:648:PRO:HB3	1:A:684:TYR:HA	2.03	0.41
1:A:572:GLY:HA2	2:C:145:ARG:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:687:ARG:HB2	3:A:820:HOH:O	2.20	0.41
1:B:575:ARG:CD	2:D:147:VAL:CG1	2.96	0.41
1:B:575:ARG:NH2	2:D:147:VAL:HG11	2.36	0.40
1:A:499:ARG:NH2	1:A:624:ASP:OD1	2.54	0.40
1:A:648:PRO:HA	1:A:649:PRO:HD3	1.95	0.40
1:B:635:ASN:HB2	3:B:804:HOH:O	2.21	0.40
1:B:560:PHE:CD2	1:B:684:TYR:HB3	2.57	0.40
1:B:575:ARG:HE	2:D:147:VAL:HG12	1.75	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	240/257 (93%)	231 (96%)	9 (4%)	0	100	100
1	B	225/257 (88%)	218 (97%)	7 (3%)	0	100	100
2	C	14/18 (78%)	14 (100%)	0	0	100	100
2	D	10/18 (56%)	8 (80%)	2 (20%)	0	100	100
All	All	489/550 (89%)	471 (96%)	18 (4%)	0	100	100

There are no Ramachandran outliers to report.

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	220/232 (95%)	220 (100%)	0	100	100
1	B	208/232 (90%)	207 (100%)	1 (0%)	81	89
2	C	14/16 (88%)	13 (93%)	1 (7%)	13	17
2	D	10/16 (62%)	9 (90%)	1 (10%)	7	8
All	All	452/496 (91%)	449 (99%)	3 (1%)	76	86

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	590	LEU
2	C	145	ARG
2	D	148	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	543	HIS
1	A	727	HIS
1	A	739	ASN
1	A	742	GLN
1	B	510	GLN
1	B	516	GLN
1	B	518	HIS
1	B	526	HIS
1	B	570	ASN
1	B	718	HIS
1	B	742	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

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	244/257 (94%)	1.24	47 (19%) 3 3	36, 48, 74, 105	0
1	B	231/257 (89%)	2.47	138 (59%) 0 0	45, 65, 103, 116	0
2	C	16/18 (88%)	2.57	11 (68%) 0 0	54, 68, 88, 89	0
2	D	12/18 (66%)	4.50	12 (100%) 0 0	91, 97, 102, 103	0
All	All	503/550 (91%)	1.93	208 (41%) 0 0	36, 57, 98, 116	0

All (208) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	592	SER	7.1
1	B	500	ILE	6.9
2	D	156	ALA	6.5
1	B	591	ASP	6.3
1	B	603	PRO	5.9
1	B	621	MET	5.8
2	D	149	VAL	5.8
1	B	606	GLY	5.7
2	D	155	LEU	5.7
1	A	750	TYR	5.6
1	B	607	LEU	5.5
2	D	147	VAL	5.5
1	A	745	ASN	5.2
1	A	744	ALA	5.2
1	B	583	PHE	5.1
1	B	579	PRO	5.0
1	B	575	ARG	5.0
2	D	151	CYS	4.9
1	B	750	TYR	4.9
2	D	157	SER	4.8
1	B	612	VAL	4.8

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Mol	Chain	Res	Type	RSRZ
1	B	581	PRO	4.8
1	B	634	GLY	4.7
2	C	160	SER	4.6
1	B	662	THR	4.6
1	B	597	TRP	4.6
1	B	596	GLY	4.5
1	B	650	LEU	4.5
2	D	146	SER	4.4
1	B	502	ASN	4.4
1	B	608	ALA	4.4
1	B	515	GLU	4.4
1	B	574	LEU	4.3
1	B	582	LEU	4.3
1	B	630	ILE	4.3
1	B	611	ILE	4.3
1	B	584	ASP	4.3
1	B	588	LEU	4.3
1	B	587	MET	4.3
1	B	503	LEU	4.3
1	B	615	LEU	4.3
1	A	600	GLU	4.2
2	D	152	LEU	4.1
1	B	595	SER	4.1
1	B	631	ASP	4.1
1	A	599	GLU	4.1
1	B	748	ASP	4.1
1	B	649	PRO	4.1
1	B	577	SER	4.0
1	B	601	ASP	3.9
1	A	693	GLU	3.9
1	B	599	GLU	3.9
1	B	633	GLU	3.9
1	B	655	ILE	3.9
1	B	691	ILE	3.9
2	C	156	ALA	3.9
2	C	145	ARG	3.8
1	B	586	ALA	3.8
1	B	602	GLY	3.8
1	B	647	VAL	3.8
1	B	594	GLU	3.7
1	A	747	PRO	3.7
1	B	590	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
2	D	153	GLY	3.7
1	B	637	ILE	3.6
1	B	576	LEU	3.6
1	B	636	LEU	3.6
1	B	667	ASP	3.6
1	B	598	THR	3.6
1	B	604	LYS	3.6
1	A	700	GLN	3.6
1	A	694	GLU	3.5
1	B	658	LEU	3.5
1	B	736	GLU	3.5
1	B	610	TYR	3.5
2	C	157	SER	3.4
1	B	632	GLU	3.4
1	A	502	ASN	3.4
1	A	511	GLU	3.4
1	B	616	LYS	3.4
1	B	644	ASP	3.4
1	B	628	LEU	3.3
1	A	598	THR	3.3
1	B	566	TYR	3.3
1	B	506	VAL	3.3
1	A	688	LYS	3.3
1	A	746	LEU	3.3
1	A	497	ARG	3.3
1	A	597	TRP	3.3
1	B	544	GLN	3.3
2	C	154	SER	3.3
1	B	638	GLY	3.2
1	B	652	GLY	3.2
1	B	613	GLU	3.2
2	D	148	LYS	3.1
2	D	154	SER	3.1
1	A	737	ASP	3.1
1	B	629	GLU	3.1
1	A	738	GLY	3.1
1	B	513	ILE	3.1
1	A	696	THR	3.1
1	B	651	GLU	3.1
2	C	152	LEU	3.1
1	A	632	GLU	3.0
1	B	605	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	589	ALA	3.0
1	B	507	LEU	3.0
1	B	585	LEU	3.0
1	B	504	THR	3.0
1	B	501	ILE	3.0
1	B	511	GLU	3.0
1	B	683	PHE	2.9
1	A	735	THR	2.9
1	B	593	PRO	2.9
1	A	748	ASP	2.9
1	B	512	GLU	2.9
1	B	653	LEU	2.9
1	B	656	PHE	2.9
2	C	158	LYS	2.8
1	B	569	ALA	2.8
1	B	620	GLU	2.8
1	B	657	ILE	2.8
1	B	735	THR	2.8
2	C	159	LEU	2.8
1	B	666	TRP	2.8
1	B	624	ASP	2.8
1	B	645	ASN	2.8
1	B	654	PRO	2.8
1	A	741	LEU	2.8
1	A	546	LYS	2.8
1	B	635	ASN	2.8
1	B	625	TYR	2.8
1	A	544	GLN	2.7
1	A	699	GLY	2.7
1	B	671	GLU	2.7
1	B	749	LEU	2.7
1	B	580	ALA	2.7
1	B	646	TYR	2.7
1	A	515	GLU	2.7
1	B	619	ALA	2.7
1	A	692	SER	2.7
1	B	614	PHE	2.7
1	A	651	GLU	2.7
1	B	732	LYS	2.7
1	B	521	LEU	2.7
1	B	573	VAL	2.6
1	A	545	THR	2.6

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Mol	Chain	Res	Type	RSRZ
1	B	670	LYS	2.6
1	B	690	TYR	2.6
1	B	609	GLU	2.6
1	B	661	ALA	2.6
1	A	726	SER	2.6
1	A	749	LEU	2.5
1	B	600	GLU	2.5
2	C	151	CYS	2.5
1	B	665	ASN	2.5
1	B	684	TYR	2.5
1	B	660	LEU	2.5
1	B	720	VAL	2.4
1	B	568	PHE	2.4
1	B	571	PHE	2.4
1	B	505	SER	2.4
1	B	673	PHE	2.4
1	B	729	LEU	2.4
1	A	736	GLU	2.4
1	B	744	ALA	2.4
1	A	695	SER	2.4
2	D	150	ILE	2.4
1	B	641	LEU	2.4
1	B	746	LEU	2.4
1	A	633	GLU	2.4
1	B	714	TRP	2.4
1	B	648	PRO	2.3
1	A	602	GLY	2.3
1	B	617	LYS	2.3
1	B	639	LEU	2.3
1	B	681	ALA	2.3
1	B	643	ILE	2.3
1	A	662	THR	2.3
1	B	715	THR	2.3
1	B	570	ASN	2.3
1	A	594	GLU	2.3
1	B	689	GLN	2.3
1	B	622	LEU	2.2
1	A	603	PRO	2.2
1	B	668	GLU	2.2
1	A	743	LEU	2.2
1	B	509	LEU	2.2
2	C	155	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	514	ASN	2.2
1	B	680	CYS	2.2
1	B	722	LYS	2.2
1	A	655	ILE	2.2
1	A	697	LEU	2.2
1	A	514	ASN	2.2
1	B	518	HIS	2.2
1	A	501	ILE	2.1
1	A	689	GLN	2.1
2	C	153	GLY	2.1
1	A	667	ASP	2.1
1	B	712	TRP	2.1
1	B	565	ILE	2.1
1	B	536	PRO	2.1
1	B	626	PHE	2.1
1	B	688	LYS	2.0
1	B	516	GLN	2.0
1	B	627	SER	2.0
1	A	624	ASP	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 oligosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.