



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 02:20 AM GMT

PDB ID : 2GOP  
Title : The beta-propeller domain of the Trilobed protease from *Pyrococcus furiosus* reveals an open velcro topology  
Authors : Bosch, J.; Tamura, T.; Tamura, N.; Baumeister, W.; Essen, L.-O.  
Deposited on : 2006-04-13  
Resolution : 2.00 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

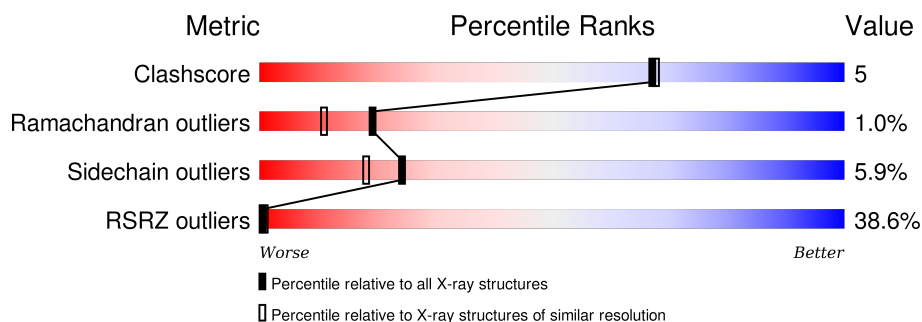
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.00 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))
Clashscore	102246	7340 (2.00-2.00)
Ramachandran outliers	100387	7248 (2.00-2.00)
Sidechain outliers	100360	7247 (2.00-2.00)
RSRZ outliers	91569	6262 (2.00-2.00)

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	347	
1	B	347	

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 5479 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 Trilobed Protease.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	320	Total	C	N	O	S	0	6	0
			2708	1757	444	500	7			
1	B	304	Total	C	N	O	S	8	1	0
			2529	1635	414	474	6			

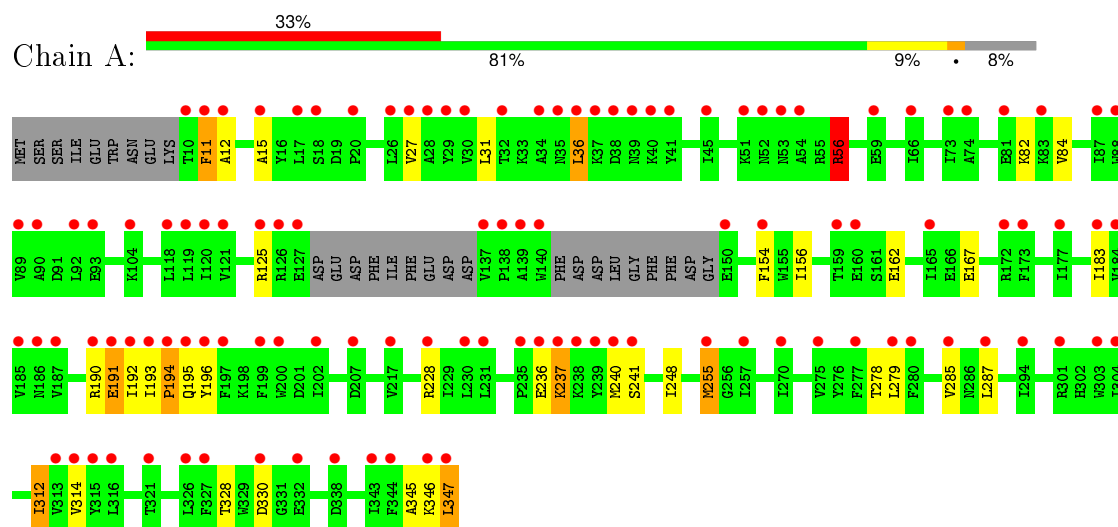
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	156	Total	O	0	0
			156	156		
2	B	86	Total	O	0	0
			86	86		

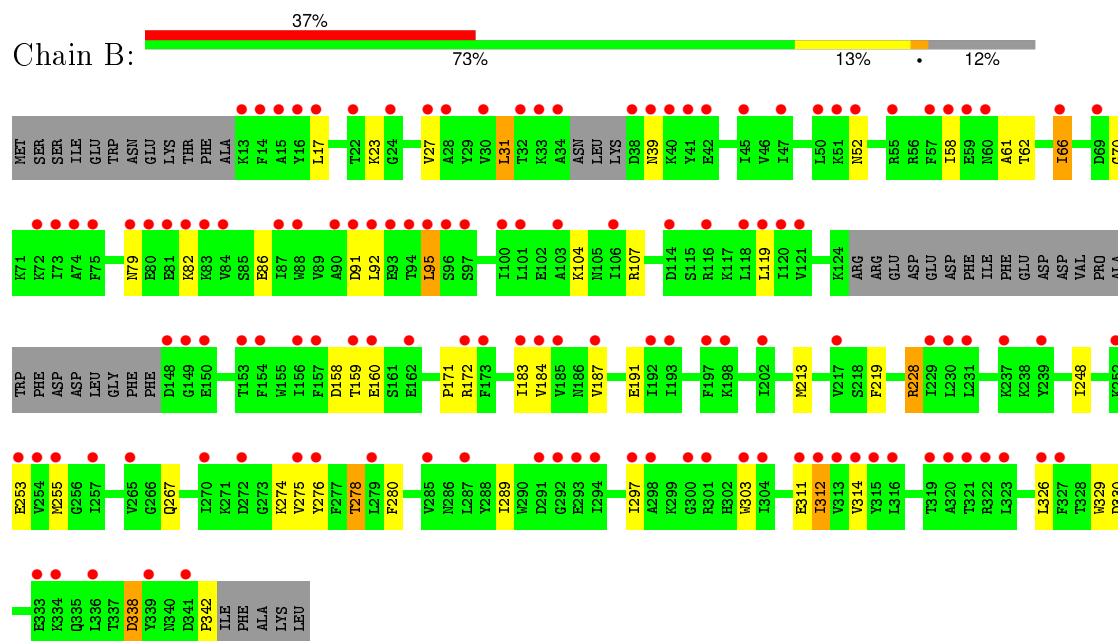
### 3 Residue-property plots [i](#)

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: Trilobed Protease



#### • Molecule 1: Trilobed Protease



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	54.75Å 88.50Å 153.97Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	18.72 – 2.00 18.72 – 2.00	Depositor EDS
% Data completeness (in resolution range)	100.0 (18.72-2.00) 80.2 (18.72-2.00)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.45 (at 2.00Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, $R_{free}$	0.209 , 0.258 0.223 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	DCC
Wilson B-factor (Å <sup>2</sup> )	39.7	Xtriage
Anisotropy	0.045	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 70.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	0 of 41171 reflections	Xtriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	5479	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	55.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.03% 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

### 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	0.44	0/2789	0.65	2/3755 (0.1%)
1	B	0.57	4/2589 (0.2%)	0.58	3/3484 (0.1%)
All	All	0.51	4/5378 (0.1%)	0.61	5/7239 (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
1	A	0	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	171	PRO	C-N	-14.56	1.00	1.34
1	B	326	LEU	CA-CB	-11.76	1.26	1.53
1	B	338	ASP	CA-CB	-11.71	1.28	1.53
1	B	172	ARG	C-N	7.27	1.50	1.34

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	56	ARG	NE-CZ-NH1	7.90	124.25	120.30
1	B	338	ASP	N-CA-CB	7.14	123.45	110.60
1	B	342	PRO	N-CA-CB	6.28	110.84	103.30
1	B	338	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	56	ARG	NE-CZ-NH2	-5.24	117.68	120.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	196	TYR	Peptide
1	A	240	MET	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	2708	0	2704	28	0
1	B	2529	0	2489	24	0
2	A	156	0	0	1	0
2	B	86	0	0	0	0
All	All	5479	0	5193	50	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (50) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:156:ILE:HD11	1:A:183:ILE:HD11	1.53	0.89
1:A:314[B]:VAL:HG22	1:A:328:THR:HG22	1.57	0.87
1:B:267:GLN:H	1:B:278:THR:HG22	1.51	0.76
1:A:193:ILE:HG22	1:A:193:ILE:O	1.85	0.75
1:A:15:ALA:HB1	1:A:31:LEU:HD11	1.74	0.69
1:B:276:TYR:CE2	1:B:289:ILE:HD13	2.30	0.67
1:A:156:ILE:HD11	1:A:183:ILE:CD1	2.24	0.65
1:B:23:LYS:HB2	1:B:66:ILE:HD11	1.81	0.64
1:A:56:ARG:HH11	1:A:56:ARG:HG3	1.62	0.63
1:A:312:ILE:HD11	1:A:330:ASP:HB3	1.81	0.61
1:B:17:LEU:HD21	1:B:31:LEU:HD22	1.84	0.60
1:B:27:VAL:HG21	1:B:314:VAL:HG21	1.85	0.58
1:B:274:LYS:HB3	1:B:289:ILE:HD11	1.85	0.57
1:A:236:GLU:O	1:A:237:LYS:HG2	2.05	0.56
1:B:184:VAL:HG13	1:B:213:MET:HE3	1.87	0.56
1:B:119:LEU:HD22	1:B:183:ILE:HD12	1.88	0.55
1:A:241:SER:HB3	1:B:280:PHE:CE1	2.40	0.55
1:A:15:ALA:HB1	1:A:31:LEU:CD1	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:278[B]:THR:HG23	1:A:285:VAL:HG13	1.91	0.53
1:B:17:LEU:CD2	1:B:31:LEU:HD22	2.39	0.53
1:B:70:GLY:O	1:B:92:LEU:HD12	2.10	0.52
1:A:36:LEU:H	1:A:36:LEU:HD23	1.76	0.51
1:A:278[B]:THR:HG23	1:A:285:VAL:CG1	2.40	0.51
1:A:278[B]:THR:CG2	1:A:285:VAL:CG1	2.89	0.51
1:A:345:ALA:O	1:A:347:LEU:HD22	2.11	0.50
1:A:278[B]:THR:CG2	1:A:285:VAL:HG13	2.43	0.48
1:B:91:ASP:O	1:B:95:LEU:HA	2.13	0.48
1:A:193:ILE:O	1:A:194:PRO:O	2.32	0.48
1:A:241:SER:HB3	1:B:280:PHE:CD1	2.48	0.48
1:B:27:VAL:CG2	1:B:314:VAL:HG21	2.45	0.47
1:A:156:ILE:CD1	1:A:183:ILE:HD11	2.36	0.46
1:B:276:TYR:CD2	1:B:289:ILE:HD13	2.50	0.46
1:B:158:ASP:OD1	1:B:160:GLU:N	2.48	0.45
1:A:193:ILE:O	1:A:193:ILE:CG2	2.57	0.45
1:A:255[B]:MET:HE3	2:A:459:HOH:O	2.16	0.45
1:B:23:LYS:HB2	1:B:66:ILE:CD1	2.47	0.44
1:B:79:ASN:HD22	1:B:86:GLU:CD	2.20	0.44
1:B:184:VAL:HG13	1:B:213:MET:CE	2.48	0.44
1:A:190:ARG:O	1:A:191:GLU:O	2.35	0.44
1:A:56:ARG:CG	1:A:56:ARG:HH11	2.28	0.43
1:B:267:GLN:N	1:B:278:THR:HG22	2.28	0.43
1:B:58:ILE:HG22	1:B:61:ALA:HB2	2.01	0.43
1:B:297:ILE:HG23	1:B:329:TRP:CD2	2.54	0.43
1:B:228:ARG:HB3	1:B:248:ILE:HG23	2.00	0.43
1:A:27:VAL:HG12	1:A:314[B]:VAL:HG21	2.01	0.42
1:A:154:PHE:O	1:A:167:GLU:HA	2.18	0.42
1:B:312:ILE:HD11	1:B:330:ASP:HB3	2.03	0.41
1:A:82:LYS:HB3	1:A:84:VAL:HG22	2.03	0.40
1:A:228[A]:ARG:HD3	1:A:248:ILE:HG21	2.03	0.40
1:A:192:ILE:HG22	1:A:192:ILE:O	2.22	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	320/347 (92%)	298 (93%)	18 (6%)	4 (1%)	15	7
1	B	299/347 (86%)	281 (94%)	16 (5%)	2 (1%)	26	19
All	All	619/694 (89%)	579 (94%)	34 (6%)	6 (1%)	19	11

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	191	GLU
1	A	194	PRO
1	A	12	ALA
1	B	52	ASN
1	A	11	PHE
1	B	39	ASN

### 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	293/312 (94%)	279 (95%)	14 (5%)	31	26
1	B	270/312 (86%)	249 (92%)	21 (8%)	16	10
All	All	563/624 (90%)	528 (94%)	35 (6%)	24	16

All (35) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	PHE
1	A	36	LEU
1	A	56	ARG
1	A	125	ARG
1	A	162	GLU
1	A	195	GLN

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Mol	Chain	Res	Type
1	A	237	LYS
1	A	255[A]	MET
1	A	255[B]	MET
1	A	279	LEU
1	A	287	LEU
1	A	312	ILE
1	A	346	LYS
1	A	347	LEU
1	B	31	LEU
1	B	62	THR
1	B	66	ILE
1	B	82	LYS
1	B	95	LEU
1	B	104	LYS
1	B	107	ARG
1	B	159	THR
1	B	187	VAL
1	B	191	GLU
1	B	219	PHE
1	B	228	ARG
1	B	253	GLU
1	B	255	MET
1	B	275	VAL
1	B	278	THR
1	B	303	TRP
1	B	311[A]	GLU
1	B	311[B]	GLU
1	B	312	ILE
1	B	338	ASP

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

Mol	Chain	Res	Type
1	A	195	GLN

### 5.3.3 RNA ⓘ

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](#)

There are no ligands in this entry.

## 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	320/347 (92%)	1.81	113 (35%) 0 1	32, 44, 71, 101	0
1	B	304/347 (87%)	2.09	128 (42%) 0 1	20, 62, 86, 97	2 (0%)
All	All	624/694 (89%)	1.94	241 (38%) 0 1	20, 50, 83, 101	2 (0%)

All (241) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	11	PHE	13.3
1	A	192	ILE	12.2
1	A	10	THR	10.5
1	A	196	TYR	10.4
1	B	149	GLY	10.0
1	A	197	PHE	8.7
1	B	173	PHE	8.1
1	A	193	ILE	7.8
1	B	39	ASN	7.7
1	A	137	VAL	7.4
1	B	192	ILE	7.4
1	B	320	ALA	7.0
1	B	92	LEU	6.9
1	B	15	ALA	6.7
1	A	126	ARG	6.7
1	A	235	PRO	6.5
1	A	150	GLU	6.5
1	B	321	THR	6.4
1	A	347	LEU	6.2
1	B	254	VAL	6.2
1	A	191	GLU	6.1
1	B	34	ALA	5.8
1	B	97	SER	5.8
1	B	93	GLU	5.6

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Mol	Chain	Res	Type	RSRZ
1	B	41	TYR	5.5
1	B	303	TRP	5.5
1	A	51	LYS	5.4
1	A	190	ARG	5.3
1	A	37	LYS	5.3
1	B	59	GLU	5.2
1	B	14	PHE	5.1
1	A	195	GLN	4.9
1	B	275	VAL	4.8
1	A	194	PRO	4.8
1	B	322	ARG	4.8
1	B	287	LEU	4.8
1	B	52	ASN	4.8
1	B	339	TYR	4.7
1	A	127	GLU	4.6
1	A	236	GLU	4.6
1	B	185	VAL	4.6
1	B	312	ILE	4.6
1	B	81	GLU	4.5
1	B	311[A]	GLU	4.5
1	B	47	ILE	4.4
1	B	57	PHE	4.4
1	A	240	MET	4.4
1	B	66	ILE	4.4
1	A	39	ASN	4.3
1	A	316	LEU	4.3
1	A	239	TYR	4.3
1	A	202	ILE	4.3
1	A	343	ILE	4.3
1	B	148	ASP	4.3
1	B	88	TRP	4.3
1	A	314[A]	VAL	4.3
1	B	150	GLU	4.3
1	A	304	ILE	4.2
1	B	73	ILE	4.2
1	B	83	LYS	4.2
1	B	69	ASP	4.2
1	B	202	ILE	4.2
1	B	160	GLU	4.2
1	B	17	LEU	4.1
1	A	12	ALA	4.1
1	B	231	LEU	4.1

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Mol	Chain	Res	Type	RSRZ
1	A	187	VAL	4.0
1	A	125	ARG	4.0
1	A	139	ALA	4.0
1	A	185	VAL	4.0
1	A	17	LEU	3.9
1	B	298	ALA	3.9
1	B	87	ILE	3.9
1	A	346	LYS	3.9
1	B	184	VAL	3.9
1	A	118	LEU	3.8
1	B	38	ASP	3.8
1	B	16	TYR	3.7
1	A	38	ASP	3.7
1	A	173	PHE	3.7
1	B	72	LYS	3.7
1	A	54	ALA	3.6
1	B	95	LEU	3.6
1	B	96	SER	3.6
1	B	51	LYS	3.5
1	A	74	ALA	3.5
1	B	13	LYS	3.5
1	B	293	GLU	3.5
1	A	36	LEU	3.5
1	B	323	LEU	3.5
1	B	239	TYR	3.5
1	A	28	ALA	3.5
1	B	80	GLU	3.4
1	A	140	TRP	3.4
1	B	193	ILE	3.4
1	B	300	GLY	3.4
1	A	270	ILE	3.4
1	B	50	LEU	3.4
1	B	255	MET	3.4
1	B	279	LEU	3.4
1	B	316	LEU	3.4
1	B	172	ARG	3.4
1	A	238	LYS	3.3
1	B	24	GLY	3.3
1	B	276	TYR	3.3
1	A	200	TRP	3.3
1	A	231	LEU	3.3
1	B	315	TYR	3.3

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Mol	Chain	Res	Type	RSRZ
1	A	119	LEU	3.3
1	B	198	LYS	3.2
1	B	304	ILE	3.2
1	B	40	LYS	3.2
1	B	187	VAL	3.2
1	A	66	ILE	3.2
1	B	272	ASP	3.1
1	B	297	ILE	3.1
1	A	30	VAL	3.1
1	B	103	ALA	3.1
1	A	52	ASN	3.1
1	A	332	GLU	3.1
1	B	101	LEU	3.0
1	B	230	LEU	3.0
1	B	229	ILE	3.0
1	A	277	PHE	3.0
1	A	73	ILE	3.0
1	A	183	ILE	3.0
1	A	217	VAL	3.0
1	B	74	ALA	3.0
1	B	162	GLU	3.0
1	B	94	THR	3.0
1	A	285	VAL	3.0
1	A	326	LEU	3.0
1	B	336	LEU	3.0
1	B	106	ILE	3.0
1	B	60	ASN	3.0
1	A	26	LEU	2.9
1	A	184	VAL	2.9
1	A	172	ARG	2.9
1	B	121	VAL	2.9
1	A	255[A]	MET	2.8
1	A	15	ALA	2.8
1	B	319	THR	2.8
1	A	344	PHE	2.8
1	A	83	LYS	2.8
1	B	90	ALA	2.8
1	A	287	LEU	2.8
1	B	27	VAL	2.8
1	A	160	GLU	2.8
1	A	275	VAL	2.8
1	B	79	ASN	2.8

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Mol	Chain	Res	Type	RSRZ
1	B	237	LYS	2.7
1	A	53	ASN	2.7
1	A	88	TRP	2.7
1	A	313	VAL	2.7
1	B	32	THR	2.7
1	B	84	VAL	2.6
1	A	87	ILE	2.6
1	B	120	ILE	2.6
1	A	29	TYR	2.6
1	B	153	THR	2.6
1	A	207	ASP	2.5
1	B	42	GLU	2.5
1	A	186	ASN	2.5
1	A	230	LEU	2.5
1	A	120	ILE	2.5
1	A	294	ILE	2.5
1	B	294	ILE	2.5
1	B	45	ILE	2.5
1	B	116	ARG	2.5
1	B	253	GLU	2.5
1	B	75	PHE	2.5
1	B	119	LEU	2.5
1	B	100	ILE	2.5
1	B	301	ARG	2.4
1	A	257	ILE	2.4
1	B	30	VAL	2.4
1	B	285	VAL	2.4
1	A	41	TYR	2.4
1	A	228[A]	ARG	2.4
1	A	154	PHE	2.4
1	A	279	LEU	2.4
1	A	327	PHE	2.4
1	A	321	THR	2.4
1	A	89	VAL	2.4
1	B	114	ASP	2.4
1	A	34	ALA	2.4
1	B	157	PHE	2.4
1	B	91	ASP	2.4
1	B	82	LYS	2.4
1	A	45	ILE	2.4
1	A	138	PRO	2.4
1	B	118	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	197	PHE	2.4
1	A	301	ARG	2.3
1	A	241	SER	2.3
1	B	313	VAL	2.3
1	A	40	LYS	2.3
1	A	59	GLU	2.3
1	A	35	ASN	2.3
1	A	159	THR	2.3
1	B	33	LYS	2.3
1	B	252	LYS	2.3
1	A	121	VAL	2.3
1	B	334	LYS	2.3
1	B	326	LEU	2.3
1	A	92	LEU	2.3
1	A	20	PRO	2.3
1	A	177	ILE	2.3
1	B	292	GLY	2.2
1	A	27	VAL	2.2
1	B	217	VAL	2.2
1	B	58	ILE	2.2
1	A	90	ALA	2.2
1	B	28	ALA	2.2
1	B	154	PHE	2.2
1	B	159	THR	2.2
1	B	333	GLU	2.2
1	A	280	PHE	2.2
1	A	315	TYR	2.2
1	B	291	ASP	2.2
1	B	265	VAL	2.2
1	A	165	ILE	2.2
1	B	270	ILE	2.2
1	A	199	PHE	2.1
1	A	303	TRP	2.1
1	B	183	ILE	2.1
1	A	338	ASP	2.1
1	B	327	PHE	2.1
1	B	314	VAL	2.1
1	B	22	THR	2.1
1	A	104	LYS	2.1
1	A	81	GLU	2.1
1	A	93	GLU	2.1
1	A	32	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	55	ARG	2.0
1	A	330	ASP	2.0
1	B	156	ILE	2.0
1	A	18	SER	2.0
1	B	257	ILE	2.0
1	B	341	ASP	2.0
1	A	237	LYS	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](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.