WORLDWIDE
wwPDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jun 24, 2024 – 07:55 AM EDT

PDB ID	:	6H5N
Title	:	Plasmodium falciparum Pfs48/45 C-terminal domain bound to monoclonal antibody 85RF45.1
Authors	:	Lennartz, F.; Higgins, M.K.
Deposited on	:	2018-07-25
Resolution	:	3.23 Å(reported)

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

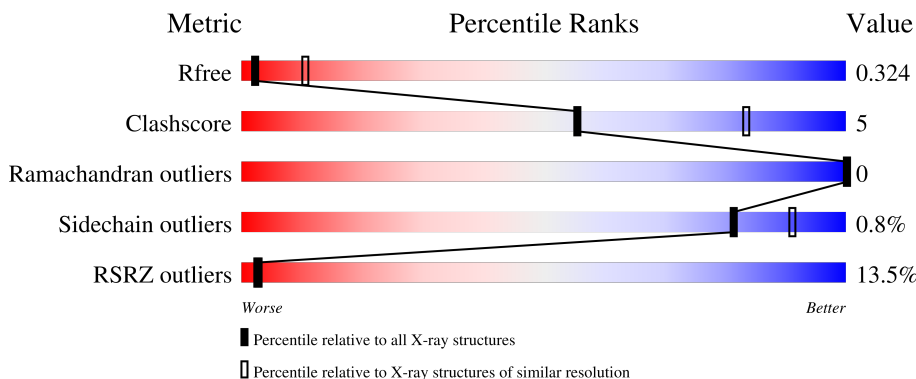|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 3.23 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.
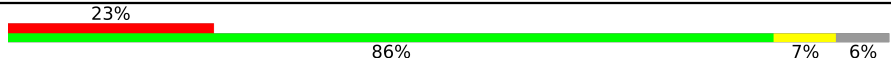
Metric	Percentile Ranks	Value
Rfree		0.324
Clashscore		5
Ramachandran outliers		0
Sidechain outliers		0.8%
RSRZ outliers		13.5%

Worse *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1619 (3.28-3.20)
Clashscore	141614	1755 (3.28-3.20)
Ramachandran outliers	138981	1728 (3.28-3.20)
Sidechain outliers	138945	1727 (3.28-3.20)
RSRZ outliers	127900	1567 (3.28-3.20)

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 <=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	136	6% / 82% / 12% / 6%
1	D	136	3% / 85% / 10% / 6%
2	B	212	7% / 90% / 10%
2	E	212	22% / 77% / 22% / •
3	C	220	11% / 80% / 14% / 6%

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Mol	Chain	Length	Quality of chain
3	F	220	

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 8407 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 Gametocyte surface protein P45/48.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	128	Total	C	N	O	S	0	0	0
			991	627	157	200	7			
1	D	128	Total	C	N	O	S	0	0	0
			996	630	158	201	7			

- Molecule 2 is a protein called Antibody 85RF45.1 light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	212	Total	C	N	O	S	0	0	0
			1628	1008	280	332	8			
2	E	212	Total	C	N	O	S	0	0	0
			1628	1008	280	332	8			

- Molecule 3 is a protein called Antibody 85RF45.1 heavy chain.

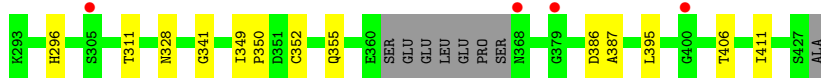| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	207	Total	C	N	O	S	0	0	0
			1582	1007	260	307	8			
3	F	207	Total	C	N	O	S	0	0	0
			1582	1007	260	307	8			

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: Gametocyte surface protein P45/48

Chain A:

• Molecule 1: Gametocyte surface protein P45/48

Chain D:

• Molecule 2: Antibody 85RF45.1 light chain

Chain B:

• Molecule 2: Antibody 85RF45.1 light chain

Chain E:

• Molecule 3: Antibody 85RF45.1 heavy chain

Chain C:

11%

80%   14%   6%

E1 L4 V5 E6 G9 L12 R16 S17 L18 A40 K43 W47 S50 I70 L79 L86 T91 A92 T93 R101 Y105 G110 Q111 G112 V113 M114 V115 T116 P125 L130 A131 PRO GLY THR ALA LEU LYS SER ASN SER MET VAL T143

L144 G145 C146 L147 Y151 F152 P153 E154 P155 V158 T159 W160 N161 S162 G168 V169 V187 T188 V189 P190 W194 P195 S196 Q197 T198 C201 N202 V203 A204 H205 S209 D213 K214 K215 I216 V217 P218 ARG ASN

• Molecule 3: Antibody 85RF45.1 heavy chain

Chain F:

23%

86%   7%   6%

E1 G9 L18 M34 W47 S50 V64 R67 L79 T91 D99 L100 R101 Y105 T116 P125 S126 V127 V128 P129 L130 A131 PRO GLY THR ALA LEU LYS SER ASN SER MET VAL T143 L144 G145 C146 L147 V148 K149 G150 Y151 V156 T157 V158 T159

W160 N161 S162 G163 A164 L165 S166 S167 H170 T171 F172 Q177 L183 T184 S185 S186 V187 T188 V189 P190 S191 S192 T193 W194 P195 S196 Q197 T198 V199 T200 C201 N202 V203 A204 H205 V212 D213 K214 K215 I216 V217 P218 ARG ASN

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 2 21 21	Depositor
Cell constants a, b, c, α, β, γ	59.69Å 165.39Å 189.66Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	41.98 – 3.23 41.98 – 3.23	Depositor EDS
% Data completeness (in resolution range)	99.8 (41.98-3.23) 99.8 (41.98-3.23)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.93 (at 3.25Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.261 , 0.282 0.286 , 0.324	Depositor DCC
R_{free} test set	1564 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	72.6	Xtriage
Anisotropy	0.451	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 63.8	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.87	EDS
Total number of atoms	8407	wwPDB-VP
Average B, all atoms (Å^2)	91.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.03 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 7.6464e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ 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	0.25	0/1012	0.48	0/1372
1	D	0.25	0/1016	0.45	0/1376
2	B	0.24	0/1667	0.46	0/2270
2	E	0.24	0/1667	0.45	0/2270
3	C	0.25	0/1623	0.44	0/2218
3	F	0.24	0/1623	0.45	0/2218
All	All	0.24	0/8608	0.45	0/11724

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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	991	0	948	11	0
1	D	996	0	954	8	0
2	B	1628	0	1551	13	0
2	E	1628	0	1551	31	0
3	C	1582	0	1544	18	0
3	F	1582	0	1544	10	0
All	All	8407	0	8092	84	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 (84) 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:E:1:GLN:HG2	2:E:98:MET:SD	2.07	0.92
3:C:12:LEU:HD11	3:C:86:LEU:HD12	1.69	0.75
2:B:99:TYR:OH	3:C:101:ARG:NH1	2.23	0.71
1:A:398:ILE:HD11	1:A:402:ILE:HD11	1.73	0.70
2:E:19:LYS:HG2	2:E:77:THR:HG22	1.75	0.69
1:A:405:THR:HG22	1:A:427:SER:H	1.59	0.66
2:E:148:VAL:HG22	2:E:200:HIS:HB2	1.79	0.65
2:B:149:THR:HG23	2:B:199:THR:HB	1.80	0.64
3:C:93:THR:HG22	3:C:114:MET:HG2	1.79	0.63
2:E:122:PHE:HB2	2:E:137:VAL:HB	1.81	0.62
2:E:1:GLN:CG	2:E:98:MET:SD	2.84	0.62
3:C:9:GLY:HA2	3:C:18:LEU:HD21	1.82	0.62
2:B:122:PHE:HB2	2:B:137:VAL:HB	1.80	0.61
2:B:148:VAL:HG22	2:B:200:HIS:HB2	1.82	0.61
3:F:125:PRO:HB3	3:F:151:TYR:HB3	1.82	0.61
2:E:149:THR:HG23	2:E:199:THR:HB	1.80	0.61
2:E:86:GLU:HB2	2:E:109:VAL:HG22	1.82	0.61
2:B:136:LEU:HD12	2:B:181:LEU:HD23	1.84	0.59
2:E:36:TRP:HD1	2:E:49:ILE:HD11	1.68	0.58
1:A:341:GLY:HA3	1:A:395:LEU:HD23	1.86	0.57
3:C:91:THR:HG23	3:C:116:THR:HA	1.86	0.57
1:A:376:ILE:HD11	1:A:402:ILE:HG12	1.86	0.56
2:E:136:LEU:HD12	2:E:181:LEU:HD23	1.87	0.55
3:F:99:ASP:OD2	3:F:101:ARG:NH2	2.40	0.55
2:E:4:LEU:HD23	2:E:24:ARG:HB3	1.87	0.55
2:E:134:ALA:HB3	2:E:183:LEU:O	2.08	0.54
1:D:349:ILE:HD11	3:F:101:ARG:HG2	1.90	0.53
3:F:34:MET:HB3	3:F:79:LEU:HD22	1.91	0.52
2:B:134:ALA:HB3	2:B:183:LEU:O	2.11	0.51
2:E:120:THR:HB	2:E:139:LEU:HB2	1.92	0.51
3:C:202:ASN:ND2	3:C:213:ASP:OD1	2.44	0.50
2:E:18:VAL:HG22	2:E:78:ILE:HB	1.93	0.50
1:A:313:SER:HB3	1:D:328:ASN:HB2	1.93	0.50
2:E:12:THR:HG21	2:E:18:VAL:HG11	1.94	0.50
3:F:91:THR:HG23	3:F:116:THR:HA	1.93	0.50
3:C:6:GLU:OE2	3:C:112:GLY:N	2.44	0.49
1:A:413:LYS:NZ	3:C:101:ARG:O	2.42	0.49
2:E:36:TRP:HB2	2:E:49:ILE:HG12	1.95	0.49
1:A:336:TYR:OH	1:A:426:ASP:O	2.31	0.49
3:C:40:ALA:HB3	3:C:43:LYS:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:47:TRP:HE1	3:C:50:SER:HB2	1.78	0.48
2:B:197:GLN:HG2	2:B:206:GLU:HG3	1.95	0.48
1:D:341:GLY:HA3	1:D:395:LEU:HD23	1.96	0.48
3:F:202:ASN:ND2	3:F:213:ASP:OD1	2.45	0.48
3:F:47:TRP:HE1	3:F:50:SER:HB2	1.80	0.47
1:D:386:ASP:OD1	1:D:387:ALA:N	2.48	0.47
2:E:57:ASP:N	2:E:57:ASP:OD1	2.45	0.46
3:F:64:VAL:HG23	3:F:67:ARG:HB3	1.97	0.46
1:A:372:LEU:O	1:A:376:ILE:HG22	2.16	0.46
2:E:150:VAL:HG12	2:E:198:VAL:HG22	1.98	0.45
3:C:4:LEU:HB2	3:C:110:GLY:HA2	1.99	0.45
2:E:23:LYS:HG2	2:E:73:SER:HB3	1.99	0.45
2:E:49:ILE:O	2:E:49:ILE:HG13	2.16	0.45
1:D:352:CYS:HA	1:D:355:GLN:O	2.17	0.45
2:B:60:PRO:HB2	2:B:62:ARG:HG2	1.98	0.45
3:C:125:PRO:HB3	3:C:151:TYR:HB3	1.98	0.45
2:B:155:ASN:HA	2:B:193:SER:HB3	1.97	0.45
2:E:49:ILE:HD13	2:E:65:GLY:HA3	1.99	0.45
2:E:114:LYS:HG2	2:E:115:SER:H	1.82	0.45
2:E:50:TYR:HB2	3:F:105:TYR:CD1	2.51	0.44
3:C:12:LEU:HD13	3:C:16:ARG:HB2	1.99	0.43
2:E:123:PRO:HA	2:E:136:LEU:HD23	1.99	0.43
2:B:123:PRO:HA	2:B:136:LEU:HD23	2.00	0.43
3:C:70:ILE:HD11	3:C:79:LEU:HD11	2.00	0.42
2:E:24:ARG:HH11	2:E:29:ILE:HA	1.83	0.42
2:E:86:GLU:HG3	2:E:108:THR:HA	2.01	0.42
1:A:319:VAL:HG11	1:A:325:ILE:HD11	2.01	0.42
2:B:50:TYR:HB2	3:C:105:TYR:CD1	2.54	0.42
3:F:9:GLY:HA2	3:F:18:LEU:HD21	2.01	0.42
2:E:51:ARG:HB2	2:E:54:GLN:HB2	2.02	0.42
1:A:357:TYR:CZ	1:A:367:SER:HB2	2.54	0.42
1:D:349:ILE:HA	1:D:350:PRO:HA	1.94	0.42
1:D:349:ILE:HB	1:D:411:ILE:HB	2.02	0.42
3:C:130:LEU:HD11	3:C:147:LEU:HB2	2.01	0.42
2:E:121:MET:HB3	2:E:209:LEU:HD11	2.01	0.42
2:E:91:CYS:O	2:E:102:GLY:N	2.52	0.41
3:C:143:THR:HA	3:C:187:VAL:O	2.21	0.41
1:A:328:ASN:N	1:D:311:THR:O	2.52	0.41
2:B:153:LYS:HB2	2:B:195:THR:OG1	2.21	0.41
2:E:207:LYS:HE2	2:E:207:LYS:HB3	1.87	0.41
2:E:153:LYS:HB2	2:E:195:THR:OG1	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:192:ASN:HA	2:E:211:PRO:HD2	2.03	0.40
2:B:207:LYS:HE2	2:B:207:LYS:HB3	1.89	0.40
3:C:91:THR:HA	3:C:115:VAL:O	2.20	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	124/136 (91%)	113 (91%)	11 (9%)	0	100	100
1	D	124/136 (91%)	115 (93%)	9 (7%)	0	100	100
2	B	210/212 (99%)	197 (94%)	13 (6%)	0	100	100
2	E	210/212 (99%)	196 (93%)	14 (7%)	0	100	100
3	C	203/220 (92%)	190 (94%)	13 (6%)	0	100	100
3	F	203/220 (92%)	192 (95%)	11 (5%)	0	100	100
All	All	1074/1136 (94%)	1003 (93%)	71 (7%)	0	100	100

There are no Ramachandran outliers to report.

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	118/125 (94%)	118 (100%)	0	100	100
1	D	118/125 (94%)	116 (98%)	2 (2%)	60	81
2	B	189/189 (100%)	188 (100%)	1 (0%)	88	94
2	E	189/189 (100%)	186 (98%)	3 (2%)	62	82
3	C	178/189 (94%)	177 (99%)	1 (1%)	86	93
3	F	178/189 (94%)	177 (99%)	1 (1%)	86	93
All	All	970/1006 (96%)	962 (99%)	8 (1%)	81	91

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	149	THR
3	C	201	CYS
1	D	296	HIS
1	D	406	THR
2	E	18	VAL
2	E	149	THR
2	E	203	ASN
3	F	101	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 monosaccharides 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(Å²)	Q<0.9
1	A	128/136 (94%)	0.46	8 (6%)	20	13	35, 72, 144, 190	0
1	D	128/136 (94%)	0.31	4 (3%)	49	37	36, 72, 120, 186	0
2	B	212/212 (100%)	0.45	14 (6%)	18	12	35, 83, 139, 189	0
2	E	212/212 (100%)	1.10	47 (22%)	0	1	28, 100, 230, 288	0
3	C	207/220 (94%)	0.51	24 (11%)	4	4	30, 63, 164, 195	0
3	F	207/220 (94%)	1.10	51 (24%)	0	1	34, 64, 228, 278	0
All	All	1094/1136 (96%)	0.69	148 (13%)	3	2	28, 79, 197, 288	0

All (148) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	F	146	CYS	10.7
3	F	193	THR	8.6
3	F	204	ALA	7.7
3	F	165	LEU	7.7
3	F	186	SER	7.3
2	E	172	ASP	7.0
3	F	164	ALA	7.0
2	E	117	PRO	6.8
2	E	171	GLU	6.5
3	F	147	LEU	6.3
2	E	118	THR	6.3
2	E	203	ASN	5.6
3	C	144	LEU	5.3
3	F	190	PRO	5.3
2	E	134	ALA	5.3
3	F	216	ILE	5.2
2	E	183	LEU	5.1
3	F	192	SER	5.0
3	F	131	ALA	5.0

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Mol	Chain	Res	Type	RSRZ
2	E	136	LEU	4.9
3	F	189	VAL	4.8
3	F	158	VAL	4.6
2	E	157	THR	4.5
3	F	149	LYS	4.5
2	E	120	THR	4.5
2	E	152	TRP	4.5
2	E	122	PHE	4.4
2	E	121	MET	4.3
2	E	192	ASN	4.3
2	B	157	THR	4.3
3	F	217	VAL	4.3
2	E	151	ALA	4.2
2	E	123	PRO	4.2
3	F	196	SER	4.1
2	E	197	GLN	4.1
3	C	190	PRO	4.0
3	F	160	TRP	4.0
3	F	145	GLY	4.0
2	B	161	GLN	4.0
2	E	206	GLU	3.9
3	F	143	THR	3.9
3	F	213	ASP	3.8
2	E	205	VAL	3.8
3	C	189	VAL	3.7
3	F	215	LYS	3.6
3	C	216	ILE	3.6
3	F	166	SER	3.6
3	F	170	HIS	3.6
3	F	144	LEU	3.5
3	F	156	VAL	3.5
3	F	148	VAL	3.5
2	E	193	SER	3.5
2	E	204	THR	3.5
3	C	215	LYS	3.5
3	F	212	VAL	3.5
3	F	184	THR	3.4
2	E	154	ALA	3.4
2	E	199	THR	3.4
3	C	155	PRO	3.3
1	D	400	GLY	3.3
2	E	124	PRO	3.3

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Mol	Chain	Res	Type	RSRZ
3	F	150	GLY	3.2
3	F	171	THR	3.2
2	E	208	SER	3.2
2	E	133	LYS	3.2
3	F	194	TRP	3.2
3	F	167	SER	3.2
3	F	198	THR	3.2
2	E	178	SER	3.1
3	F	201	CYS	3.1
2	E	186	ASP	3.1
3	F	172	PHE	3.1
2	E	150	VAL	3.1
2	E	155	ASN	3.0
3	F	177	GLN	3.0
3	F	185	SER	3.0
1	A	321	ASP	3.0
1	A	322	SER	3.0
2	E	166	SER	3.0
3	C	143	THR	3.0
2	B	134	ALA	2.9
3	F	191	SER	2.9
3	C	194	TRP	2.9
2	E	138	CYS	2.8
2	E	125	SER	2.8
1	D	305	SER	2.8
2	E	130	GLN	2.8
2	E	140	ILE	2.8
3	C	169	VAL	2.8
3	F	163	GLY	2.8
3	F	183	LEU	2.7
1	A	427	SER	2.7
2	E	158	PRO	2.7
2	E	201	GLU	2.7
3	F	202	ASN	2.7
2	E	1	GLN	2.7
3	F	205	HIS	2.7
2	B	121	MET	2.6
2	E	209	LEU	2.6
3	C	196	SER	2.6
3	F	126	SER	2.6
3	C	153	PRO	2.6
3	C	168	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
3	C	197	GLN	2.6
3	F	128	TYR	2.6
2	B	131	GLU	2.5
3	F	203	VAL	2.5
3	C	158	VAL	2.5
3	F	199	VAL	2.5
2	B	172	ASP	2.5
2	E	139	LEU	2.4
3	F	130	LEU	2.4
1	D	379	GLY	2.4
3	C	160	TRP	2.4
2	B	176	MET	2.4
3	C	209	SER	2.4
3	F	162	SER	2.4
2	E	210	SER	2.3
2	E	176	MET	2.3
2	B	189	ARG	2.3
3	C	203	VAL	2.3
2	B	183	LEU	2.3
2	B	191	HIS	2.3
3	F	157	THR	2.3
2	B	190	SER	2.3
1	A	366	PRO	2.2
3	C	213	ASP	2.2
1	A	368	ASN	2.2
1	D	368	ASN	2.2
1	A	420	TYR	2.2
3	C	146	CYS	2.2
2	E	26	THR	2.2
3	C	198	THR	2.2
2	B	130	GLN	2.1
2	E	126	PRO	2.1
3	C	217	VAL	2.1
3	F	187	VAL	2.1
3	C	162	SER	2.1
3	C	195	PRO	2.1
3	F	197	GLN	2.1
1	A	320	ASP	2.1
3	C	205	HIS	2.1
2	B	122	PHE	2.1
2	E	160	THR	2.0
2	E	189	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
2	B	136	LEU	2.0
2	E	153	LYS	2.0
1	A	400	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 monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.