



Full wwPDB X-ray Structure Validation Report ⓘ

May 25, 2020 – 06:06 pm BST

PDB ID : 5Z6P
Title : The crystal structure of an agarase, AgWH50C
Authors : Mao, X.; Zhou, J.; Zhang, P.; Zhang, L.; Zhang, J.; Li, Y.
Deposited on : 2018-01-24
Resolution : 2.06 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtrriage (Phenix) : 1.13
EDS : 2.11
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) : 2.11

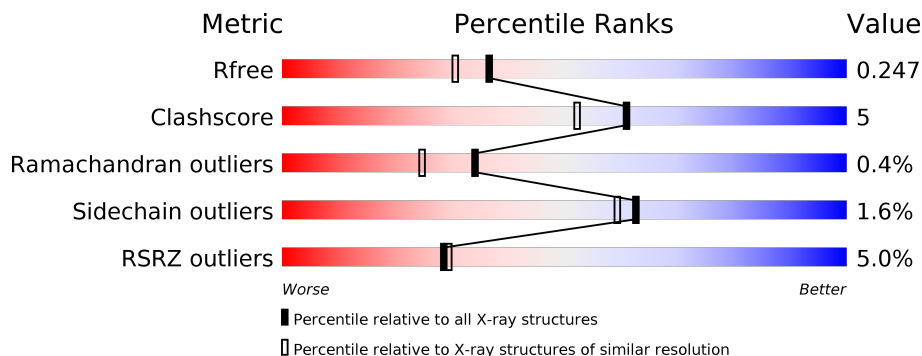
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.06 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	2684 (2.08-2.04)
Clashscore	141614	2801 (2.08-2.04)
Ramachandran outliers	138981	2768 (2.08-2.04)
Sidechain outliers	138945	2768 (2.08-2.04)
RSRZ outliers	127900	2646 (2.08-2.04)

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 ≥ 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	765	
1	B	765	

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 11777 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 B-agarase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	702	5621	3598	952	1045	26	0	0	0
1	B	646	5181	3312	881	962	26	0	0	0

There are 52 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-24	HIS	-	expression tag	UNP A0A023LLI1
A	-23	HIS	-	expression tag	UNP A0A023LLI1
A	-22	HIS	-	expression tag	UNP A0A023LLI1
A	-21	HIS	-	expression tag	UNP A0A023LLI1
A	-20	HIS	-	expression tag	UNP A0A023LLI1
A	-19	HIS	-	expression tag	UNP A0A023LLI1
A	-18	HIS	-	expression tag	UNP A0A023LLI1
A	-17	HIS	-	expression tag	UNP A0A023LLI1
A	-16	GLY	-	expression tag	UNP A0A023LLI1
A	-15	SER	-	expression tag	UNP A0A023LLI1
A	-14	ASP	-	expression tag	UNP A0A023LLI1
A	-13	TYR	-	expression tag	UNP A0A023LLI1
A	-12	ASP	-	expression tag	UNP A0A023LLI1
A	-11	ILE	-	expression tag	UNP A0A023LLI1
A	-10	PRO	-	expression tag	UNP A0A023LLI1
A	-9	THR	-	expression tag	UNP A0A023LLI1
A	-8	THR	-	expression tag	UNP A0A023LLI1
A	-7	GLU	-	expression tag	UNP A0A023LLI1
A	-6	ASN	-	expression tag	UNP A0A023LLI1
A	-5	LEU	-	expression tag	UNP A0A023LLI1
A	-4	TYR	-	expression tag	UNP A0A023LLI1
A	-3	PHE	-	expression tag	UNP A0A023LLI1
A	-2	GLN	-	expression tag	UNP A0A023LLI1
A	-1	GLY	-	expression tag	UNP A0A023LLI1
A	0	SER	-	expression tag	UNP A0A023LLI1

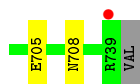
Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	307	ASP	GLY	see sequence details	UNP A0A023LLI1
B	-24	HIS	-	expression tag	UNP A0A023LLI1
B	-23	HIS	-	expression tag	UNP A0A023LLI1
B	-22	HIS	-	expression tag	UNP A0A023LLI1
B	-21	HIS	-	expression tag	UNP A0A023LLI1
B	-20	HIS	-	expression tag	UNP A0A023LLI1
B	-19	HIS	-	expression tag	UNP A0A023LLI1
B	-18	HIS	-	expression tag	UNP A0A023LLI1
B	-17	HIS	-	expression tag	UNP A0A023LLI1
B	-16	GLY	-	expression tag	UNP A0A023LLI1
B	-15	SER	-	expression tag	UNP A0A023LLI1
B	-14	ASP	-	expression tag	UNP A0A023LLI1
B	-13	TYR	-	expression tag	UNP A0A023LLI1
B	-12	ASP	-	expression tag	UNP A0A023LLI1
B	-11	ILE	-	expression tag	UNP A0A023LLI1
B	-10	PRO	-	expression tag	UNP A0A023LLI1
B	-9	THR	-	expression tag	UNP A0A023LLI1
B	-8	THR	-	expression tag	UNP A0A023LLI1
B	-7	GLU	-	expression tag	UNP A0A023LLI1
B	-6	ASN	-	expression tag	UNP A0A023LLI1
B	-5	LEU	-	expression tag	UNP A0A023LLI1
B	-4	TYR	-	expression tag	UNP A0A023LLI1
B	-3	PHE	-	expression tag	UNP A0A023LLI1
B	-2	GLN	-	expression tag	UNP A0A023LLI1
B	-1	GLY	-	expression tag	UNP A0A023LLI1
B	0	SER	-	expression tag	UNP A0A023LLI1
B	307	ASP	GLY	see sequence details	UNP A0A023LLI1

- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	592	Total O 592 592	0	0
2	B	383	Total O 383 383	0	0



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	215.80Å 93.65Å 85.05Å 90.00° 105.66° 90.00°	Depositor
Resolution (Å)	46.82 – 2.06 46.82 – 2.06	Depositor EDS
% Data completeness (in resolution range)	92.2 (46.82-2.06) 92.2 (46.82-2.06)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.15 (at 2.07Å)	Xtrriage
Refinement program	PHENIX 1.8.3_1479	Depositor
R, R_{free}	0.195 , 0.245 0.198 , 0.247	Depositor DCC
R_{free} test set	4573 reflections (4.93%)	wwPDB-VP
Wilson B-factor (Å ²)	26.6	Xtrriage
Anisotropy	0.153	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 48.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	11777	wwPDB-VP
Average B, all atoms (Å ²)	25.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.17% 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](#)

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	0.48	0/5782	0.57	1/7842 (0.0%)
1	B	0.42	0/5326	0.56	0/7214
All	All	0.45	0/11108	0.56	1/15056 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	606	ARG	NE-CZ-NH1	-6.22	117.19	120.30

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	A	5621	0	5340	39	0
1	B	5181	0	4901	56	0
2	A	592	0	0	10	5
2	B	383	0	0	6	2
All	All	11777	0	10241	95	5

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 (95) 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:624:LEU:H	1:B:677:THR:HG21	1.29	0.96
1:A:567:GLU:OE1	1:A:606:ARG:NH1	2.04	0.90
1:B:552:LEU:HD23	1:B:554:HIS:H	1.37	0.89
1:A:355:TYR:OH	1:A:366:GLN:OE1	1.92	0.85
1:A:192:ASN:ND2	2:A:801:HOH:O	2.07	0.85
1:A:624:LEU:H	1:A:677:THR:HG21	1.44	0.82
1:A:360:PHE:CD1	1:A:361:GLU:HG2	2.17	0.79
1:B:624:LEU:H	1:B:677:THR:CG2	1.95	0.78
1:B:285:LEU:HD11	1:B:389:MET:HE1	1.65	0.77
1:A:624:LEU:H	1:A:677:THR:CG2	2.03	0.71
1:B:439:SER:H	1:B:440:GLY:HA3	1.55	0.70
1:A:207:GLN:OE1	2:A:802:HOH:O	2.09	0.70
1:A:673:ARG:NH2	2:A:806:HOH:O	2.23	0.69
1:B:93:HIS:NE2	1:B:156:ASP:OD2	2.21	0.69
1:B:216:GLU:OE1	2:B:801:HOH:O	2.12	0.68
1:B:124:GLY:O	1:B:154:ASN:ND2	2.18	0.66
1:B:499:ILE:O	1:B:503:THR:OG1	2.10	0.64
1:B:59:GLN:HG2	1:B:60:GLN:H	1.63	0.63
1:B:624:LEU:N	1:B:677:THR:HG21	2.09	0.63
1:B:450:PRO:O	2:B:802:HOH:O	2.15	0.63
1:B:208:GLU:OE2	1:B:214:HIS:NE2	2.19	0.62
1:B:700:ARG:HE	1:B:705:GLU:HB3	1.65	0.62
1:A:301:VAL:N	1:A:362:GLY:O	2.36	0.58
1:A:24:GLU:O	2:A:803:HOH:O	2.17	0.58
1:B:93:HIS:CD2	1:B:159:ALA:HB3	2.38	0.58
1:A:180:ASN:HD22	1:A:180:ASN:N	2.02	0.58
1:B:141:THR:N	1:B:142:LYS:HA	2.20	0.57
1:B:418:ASP:OD1	2:B:804:HOH:O	2.18	0.57
1:B:90:ILE:HG12	1:B:163:ILE:HG12	1.88	0.56
1:B:78:ALA:HA	1:B:176:LEU:HD23	1.88	0.56
1:B:192:ASN:O	1:B:194:LEU:N	2.38	0.55
1:A:327:THR:HG22	1:A:329:LYS:H	1.71	0.55
1:B:93:HIS:CE1	1:B:94:GLN:HE21	2.25	0.55
1:B:129:ALA:O	2:B:805:HOH:O	2.18	0.54
1:A:327:THR:HB	1:A:330:VAL:HG12	1.89	0.54
1:A:487:TRP:HB3	1:A:604:VAL:HG11	1.88	0.53
1:B:18:SER:O	2:B:806:HOH:O	2.19	0.53
1:B:59:GLN:CD	1:B:59:GLN:H	2.12	0.53
1:A:624:LEU:N	1:A:677:THR:HG21	2.20	0.53
1:B:435:ASP:OD1	1:B:454:ARG:NH1	2.41	0.53
1:A:410:ASN:OD1	1:A:427:ASN:HB3	2.10	0.52
1:A:141:THR:HG23	1:A:143:ASP:O	2.11	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:451:PHE:CG	1:B:516:VAL:HG21	2.47	0.50
1:A:86:MET:HE3	1:A:165:LEU:HB3	1.94	0.50
1:A:207:GLN:HE21	1:A:209:HIS:HB3	1.77	0.50
1:B:673:ARG:NH2	2:B:808:HOH:O	2.24	0.50
1:B:553:THR:O	1:B:554:HIS:ND1	2.45	0.50
1:A:360:PHE:CE1	1:A:361:GLU:HG2	2.46	0.50
1:A:262:ALA:HB1	1:A:739:ARG:HH21	1.76	0.49
1:B:559:VAL:HA	1:B:562:TYR:CD2	2.47	0.49
1:B:645:HIS:HB3	1:B:690:PHE:O	2.12	0.49
1:B:505:GLY:O	1:B:550:LYS:HE3	2.11	0.49
1:B:197:ILE:HG23	1:B:198:ILE:HG12	1.95	0.49
1:B:552:LEU:HD22	1:B:562:TYR:OH	2.12	0.49
1:B:581:LEU:HD23	1:B:590:TYR:HB2	1.95	0.48
1:A:700:ARG:NH2	2:A:818:HOH:O	2.36	0.48
1:B:138:PRO:HG2	1:B:145:TYR:CE1	2.48	0.48
1:B:11:ALA:HB3	1:B:183:LEU:O	2.13	0.48
1:A:364:VAL:O	1:A:364:VAL:HG13	2.12	0.48
1:B:410:ASN:OD1	1:B:427:ASN:HB3	2.12	0.48
1:A:299:LYS:HD3	1:A:300:LEU:H	1.80	0.47
1:A:520:LEU:HD13	1:A:565:LEU:HD23	1.96	0.47
1:B:36:ARG:NH1	1:B:41:GLU:OE1	2.47	0.47
1:A:36:ARG:HD2	1:A:41:GLU:OE2	2.13	0.47
1:B:439:SER:N	1:B:440:GLY:HA3	2.23	0.47
1:A:567:GLU:HG2	2:A:1139:HOH:O	2.16	0.46
1:A:606:ARG:NH2	2:A:845:HOH:O	2.49	0.46
1:B:443:PHE:HZ	1:B:506:ARG:NH2	2.14	0.45
1:A:32:GLU:OE2	2:A:804:HOH:O	2.21	0.45
1:B:653:PHE:CG	1:B:708:ASN:HB2	2.52	0.45
1:B:500:ALA:O	1:B:504:LEU:HG	2.17	0.45
1:B:645:HIS:HA	1:B:689:TYR:CE2	2.52	0.45
1:B:438:SER:OG	1:B:439:SER:N	2.50	0.44
1:A:207:GLN:NE2	1:A:650:ASP:O	2.50	0.44
1:B:77:ARG:HB3	1:B:109:GLN:HA	1.99	0.44
1:A:190:ASP:O	1:A:193:TYR:HB2	2.18	0.43
1:B:87:PHE:HB2	1:B:166:SER:HB3	2.00	0.43
1:A:54:VAL:HB	1:A:165:LEU:HB2	2.01	0.43
1:A:9:GLN:HB3	1:A:10:GLY:H	1.65	0.43
1:B:674:TYR:O	1:B:677:THR:HB	2.19	0.43
1:A:578:LYS:NZ	2:A:848:HOH:O	2.49	0.43
1:B:84:THR:HG21	1:B:176:LEU:HD11	2.00	0.42
1:B:512:PRO:O	1:B:516:VAL:HG23	2.18	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:512:PRO:O	1:B:516:VAL:N	2.43	0.42
1:A:77:ARG:HG2	1:A:109:GLN:HA	2.01	0.42
1:B:61:ASN:HD22	1:B:159:ALA:HB1	1.85	0.42
1:B:136:PRO:CG	1:B:194:LEU:HD22	2.50	0.41
1:A:360:PHE:CE1	1:A:361:GLU:CG	3.04	0.41
1:B:438:SER:O	1:B:499:ILE:HA	2.20	0.41
1:B:97:MET:O	1:B:151:GLY:HA3	2.21	0.41
1:A:197:ILE:HG13	1:A:197:ILE:O	2.20	0.40
1:B:625:HIS:O	1:B:628:PRO:HD2	2.21	0.40
1:A:142:LYS:HA	2:A:1167:HOH:O	2.22	0.40
1:B:93:HIS:CE1	1:B:94:GLN:HG2	2.56	0.40
1:A:438:SER:OG	1:A:439:SER:N	2.54	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:963:HOH:O	2:B:933:HOH:O[2_1169]	2.14	0.06
2:A:1222:HOH:O	2:A:1304:HOH:O[2_11510]	2.16	0.04
2:A:1320:HOH:O	2:B:1109:HOH:O[1_566]	2.19	0.01
2:A:925:HOH:O	2:A:1258:HOH:O[2_11510]	2.19	0.01
2:A:1245:HOH:O	2:A:1355:HOH:O[2_11510]	2.19	0.01

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	696/765 (91%)	677 (97%)	19 (3%)	0	100	100
1	B	632/765 (83%)	600 (95%)	27 (4%)	5 (1%)	19	9
All	All	1328/1530 (87%)	1277 (96%)	46 (4%)	5 (0%)	34	25

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	125	ALA
1	B	18	SER
1	B	508	ALA
1	B	551	GLY
1	B	507	SER

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	587/644 (91%)	574 (98%)	13 (2%)	52 46
1	B	542/644 (84%)	537 (99%)	5 (1%)	78 78
All	All	1129/1288 (88%)	1111 (98%)	18 (2%)	62 59

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	9	GLN
1	A	110	GLN
1	A	180	ASN
1	A	186	SER
1	A	207	GLN
1	A	260	LYS
1	A	356	MET
1	A	358	GLU
1	A	359	LEU
1	A	361	GLU
1	A	442	ASP
1	A	630	SER
1	A	677	THR
1	B	194	LEU
1	B	520	LEU
1	B	553	THR
1	B	558	GLN
1	B	677	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	93	HIS
1	A	180	ASN
1	A	207	GLN
1	B	61	ASN
1	B	94	GLN
1	B	558	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 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, 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	702/765 (91%)	-0.03	17 (2%) 59 61	13, 20, 41, 70	0
1	B	646/765 (84%)	0.31	50 (7%) 13 13	12, 24, 54, 75	0
All	All	1348/1530 (88%)	0.13	67 (4%) 28 29	12, 21, 49, 75	0

All (67) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	444	TRP	6.5
1	B	192	ASN	5.4
1	A	360	PHE	5.2
1	B	553	THR	5.0
1	B	554	HIS	4.6
1	A	442	ASP	4.0
1	B	520	LEU	4.0
1	A	95	GLY	3.9
1	B	562	TYR	3.9
1	B	441	ASP	3.7
1	A	37	PHE	3.7
1	B	18	SER	3.6
1	B	357	ARG	3.5
1	B	551	GLY	3.4
1	B	59	GLN	3.4
1	B	494	ASP	3.4
1	B	124	GLY	3.3
1	B	550	LYS	3.3
1	B	506	ARG	3.2
1	B	508	ALA	3.2
1	A	59	GLN	3.2
1	B	503	THR	3.2
1	B	518	VAL	3.1
1	A	93	HIS	3.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	552	LEU	3.0
1	A	300	LEU	3.0
1	B	442	ASP	3.0
1	B	19	GLN	3.0
1	A	327	THR	2.8
1	B	557	ALA	2.8
1	B	126	CYS	2.7
1	B	561	ASP	2.7
1	B	507	SER	2.7
1	A	12	LEU	2.7
1	B	739	ARG	2.7
1	A	140	GLY	2.7
1	B	440	GLY	2.6
1	B	514	LYS	2.6
1	B	564	LEU	2.6
1	B	22	LEU	2.5
1	B	187	PRO	2.5
1	B	460	ALA	2.4
1	B	130	SER	2.4
1	B	133	ARG	2.4
1	A	739	ARG	2.4
1	B	60	GLN	2.3
1	A	359	LEU	2.3
1	B	145	TYR	2.3
1	A	362	GLY	2.3
1	B	558	GLN	2.3
1	B	129	ALA	2.2
1	A	440	GLY	2.2
1	B	141	THR	2.2
1	B	491	GLY	2.2
1	B	509	ASP	2.2
1	B	136	PRO	2.1
1	B	453	PRO	2.1
1	B	193	TYR	2.1
1	B	385	GLY	2.1
1	B	135	ASN	2.1
1	A	94	GLN	2.1
1	B	511	CYS	2.1
1	B	21	THR	2.0
1	B	505	GLY	2.0
1	B	185	SER	2.0
1	A	441	ASP	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	444	TRP	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.