**BT305 Lab6 Assignment**

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1. **Total relative solvent accessible surface area**

alpha helix = 1712.39

beta sheet = 2669.05 1PGB = 3678.5

sumittrpcage = 1819.9

1. **Average per residue solvent accessible surface area**

alpha helix = 121.32

beta sheet = 122.31

1PGB = 65.7

sumittrpcage = 91.0

1. **The increasing order of per residue SASA is**

1PGB < sumittrpcage < beta sheet < alpha helix

Pre-residue SASA provides a metric for assessing the average solvent exposure of individual residues within a protein. According to this measure, it can be inferred that 1PGB is the least solvent-exposed on average, while the alpha helix is the most solvent-exposed.

1. **On changing probe radius from 1.4 to 1.0, Absolute SASA :**

alpha helix = 1627.27 beta sheet = 2529.59 1PGB = 3735.83

sumittrpcage = 1759.20

**Relative SASA**  alpha helix = 0.95 beta sheet = 0.947

1PGB = 0.984

sumittrpcage = 0.966

1. In the scenarios of Protein G and TRP Cage, TRP residue tends to be buried due to its hydrophobic nature. Consequently, it exhibits lower exposure to solvent, resulting in significantly reduced SASA values.