

1 Reading assignment 5. Section 1.3

Read Section 1.3 and answer the following:

1. What amino acids have a Sulphur atom? Do they behave in the same manner?

Cystein and Methionine.

No, in methionine the sulfur atom is bound to a methyl group (hidden by a CH_3), which makes it much less reactive than cystein.

2. What happens to charged residues when they are "buried"?

When buried, they are involved in salt bridges, i.e. they form strong hydrogen bonds (between positive and negative charged hydrogen atoms) with positively charged amino acids. Contributes to the stability of the proteins (to stay together and solid).

3. What residues can interact with metals?

Cystein and Histidine are the most common. Also Aspartate and Glutamate too (aspartic acids).

4. Provide two important features of aromatic residues.

- (a) **They have a continuous orbital overlap that gives them special optical properties. For example, to absorb light at 280 nm (tryptophan).**
- (b) **They can interact favorably with each other, being attracted and usually they can be found all together.**