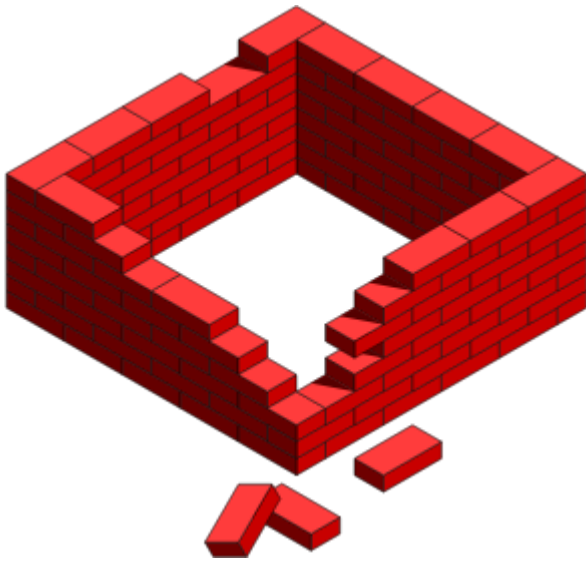


1.6 Proteins (pg 19)

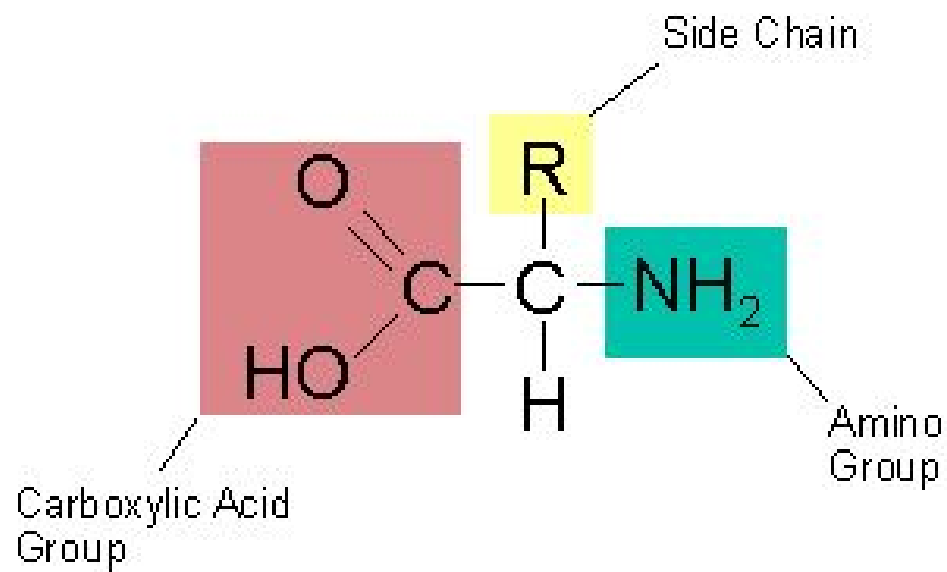


Monomer: **Amino acid**

Polymer : **Polypeptide**

Polypeptide > **3-D** > **protein**

Amino acid

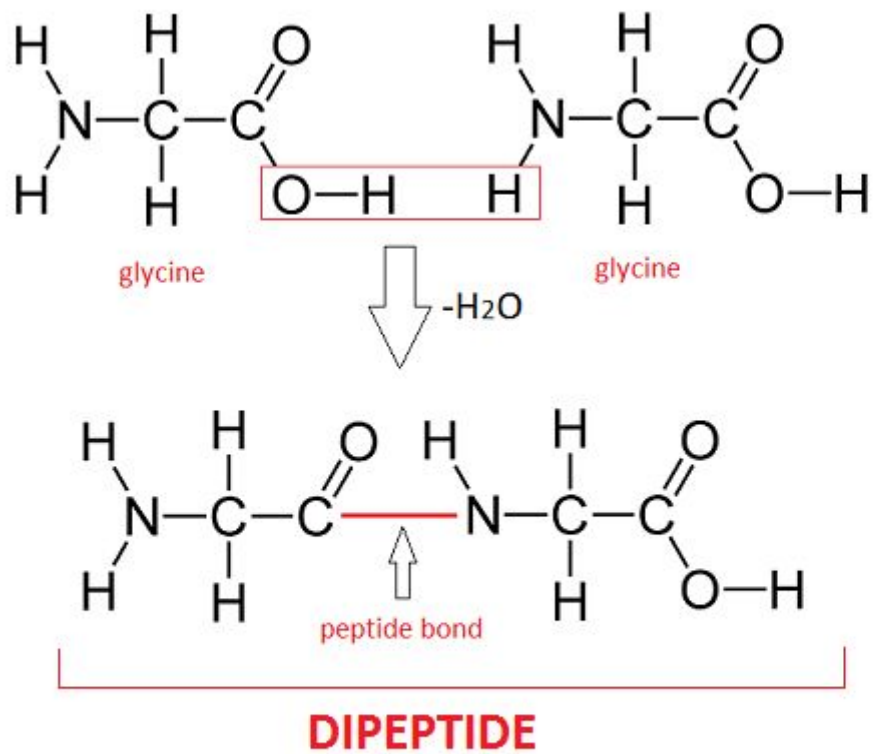


R group = side chain = 20

R group > charge > + or -

Charge > Folding

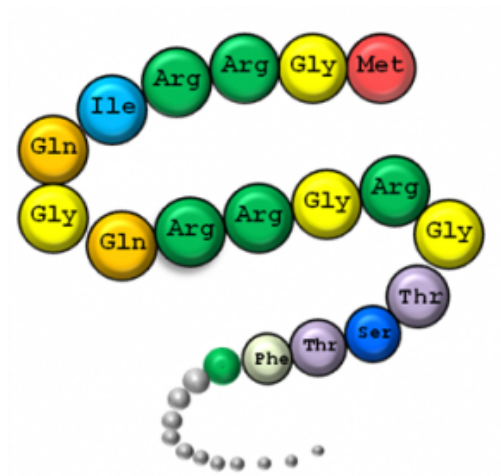
Peptide bond



- H₂O = condensation

+H₂O = hydrolysis

Polypeptide



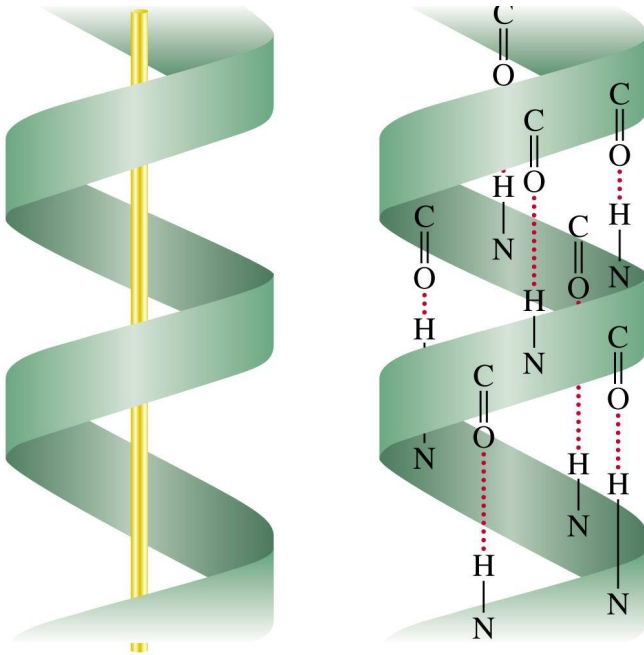
A string of amino acids > peptide bonds

Primary structure of a protein

Polypeptide > where?

Polypeptide has no shape or function

Secondary structure of a protein - alpha helix (pg 20)

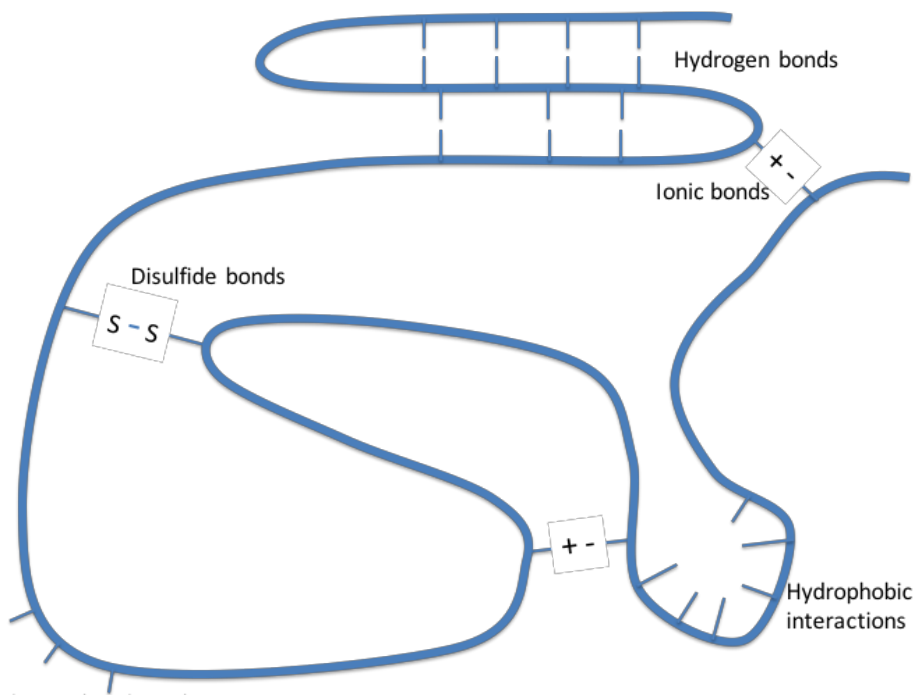


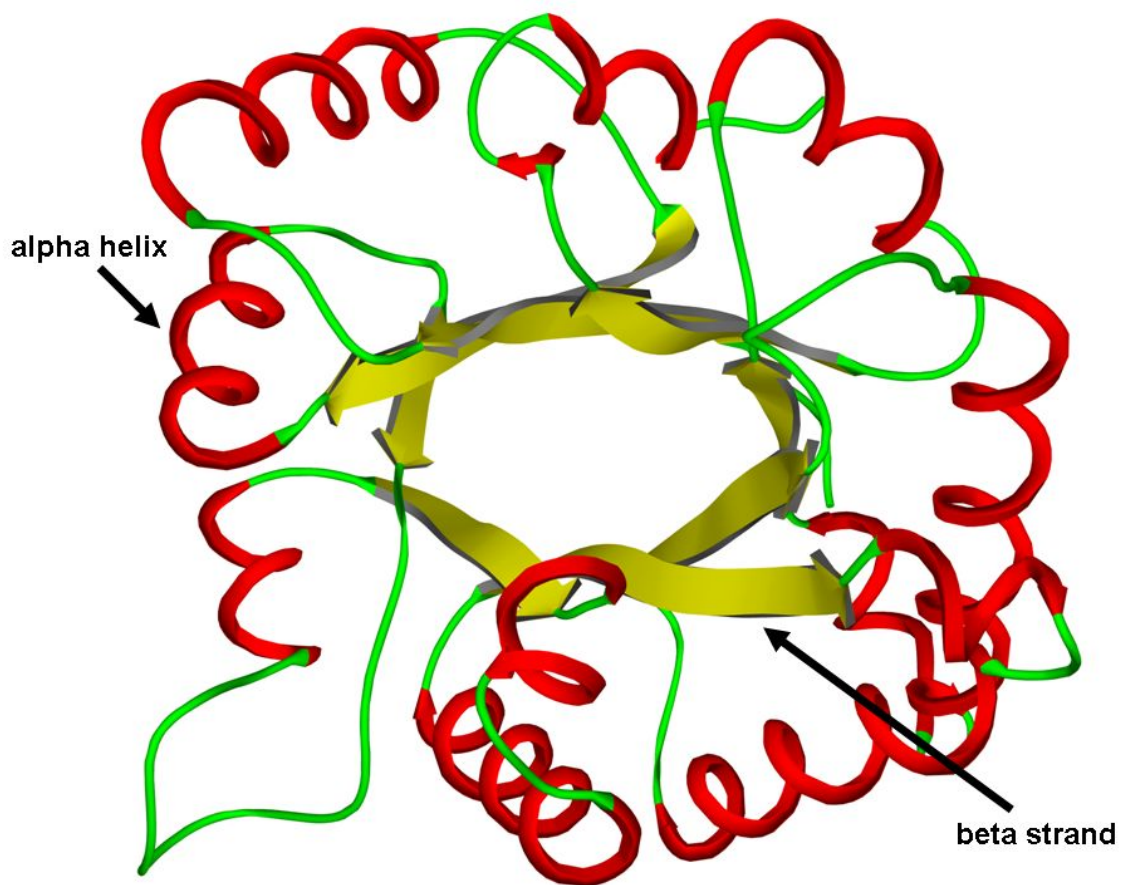
- Spiral, 3-D
- H-bonds > C=O groups and N-H groups

A secondary structure **has shape but no function**

Tertiary structure (pg 20-21)

- 3-D structure
- Shape + function
- H-bonds, Ionic bonds, Disulphide bonds

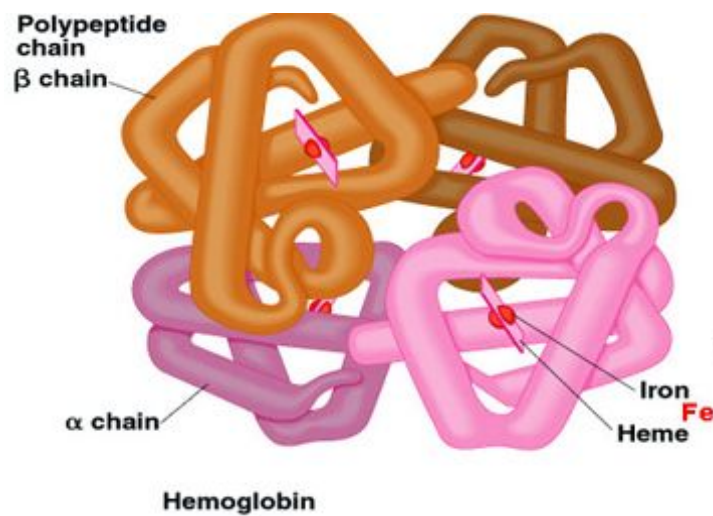




Quaternary structure (pg 21, pg 161)

- 4th level of organisation
- From 2° or 4° structure

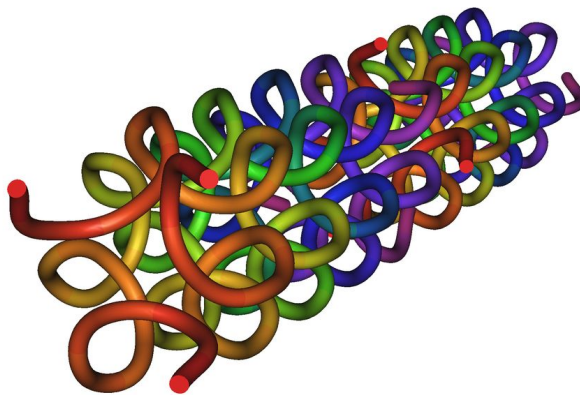
Haemoglobin



- 4 polypeptide chains
- Each >tertiary
- Each subunit > iron molecule
- Globular, compact shape

Collagen (pg 22)

- Fibrous
- Strands woven together
- ↑↑↑ H-bonds
- strength = bones, cornea
- stretch = elasticity = skin, tendons



>> Test for Proteins (pg 21)