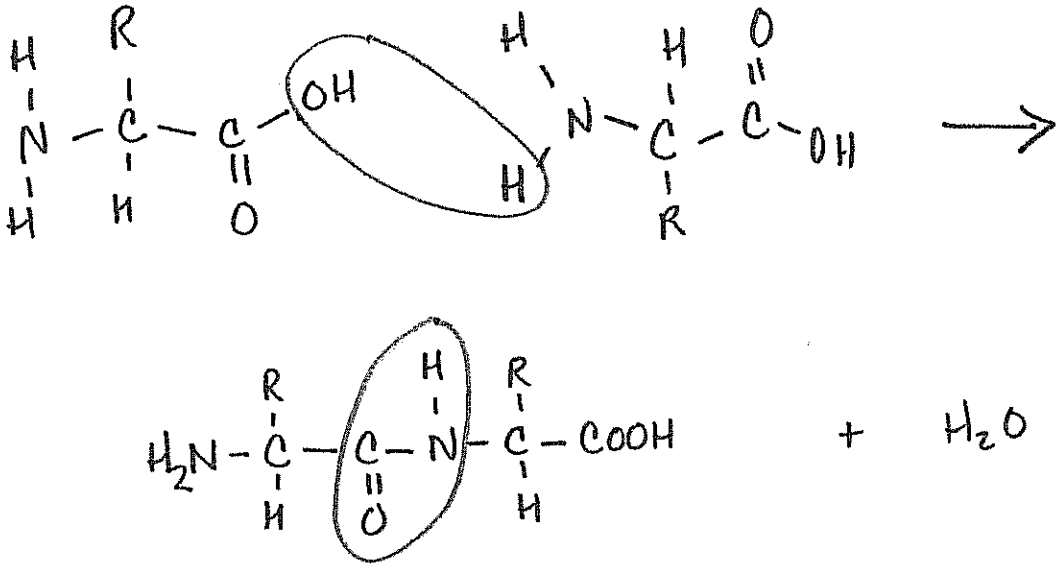
Amino acids & Proteins



Peptide bond : (covalent)

Polypeptide = amino acid chain

Protein = polypeptide(s) that carry out a function.

- structural
- enzymatic
- hormonal
- cell membrane

} examples of functions

Protein structure

① Primary structure = the sequence of amino acids.
sequence is determined by genes
primary structure determines the final shape + function of the protein.

Imp bonds: peptide

② secondary structure = regular patterns of neighboring amino acids such as the alpha helix or beta-pleated sheet.

Imp. bonds: H-bonds

③ tertiary structure = describes the 3-D shape of the entire polypeptide chain.

Imp. bonds = hydrophobic interactions
disulfide bridges
ionic bonds (between charged side groups)
van der Waals forces
H-bonds

④ quaternary structure = arrangement of subunits of a protein.

* Denaturing - loss of structure (3°, 4°) by heating / addition of acid or base).
* Domains (regions coded for by continuous amino acids that contribute to a