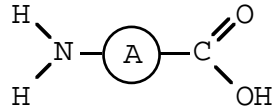


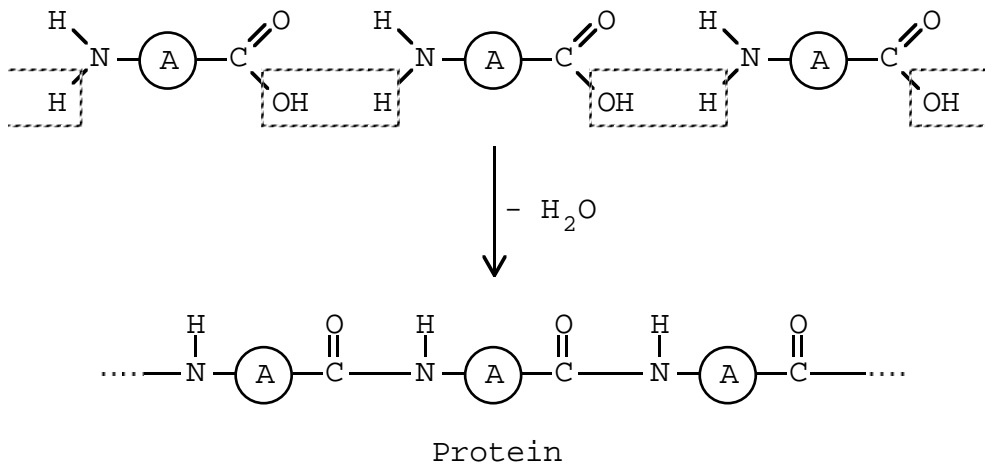
PROTEINS

Proteins form an important class of food made by plants and animals.

Amino acids polymerise (link together) to form giant molecules called 'proteins' or 'polyamides'. Using the simplified structure of an amino acid:

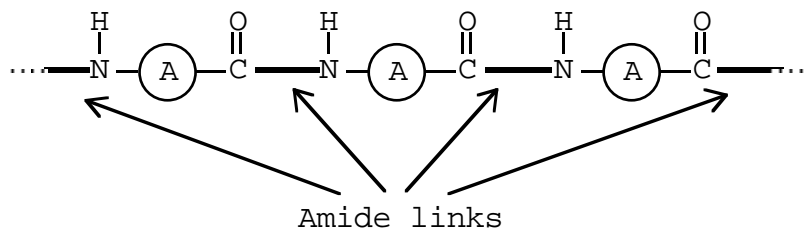


we can see how polymerisation occurs by a **condensation** reaction:

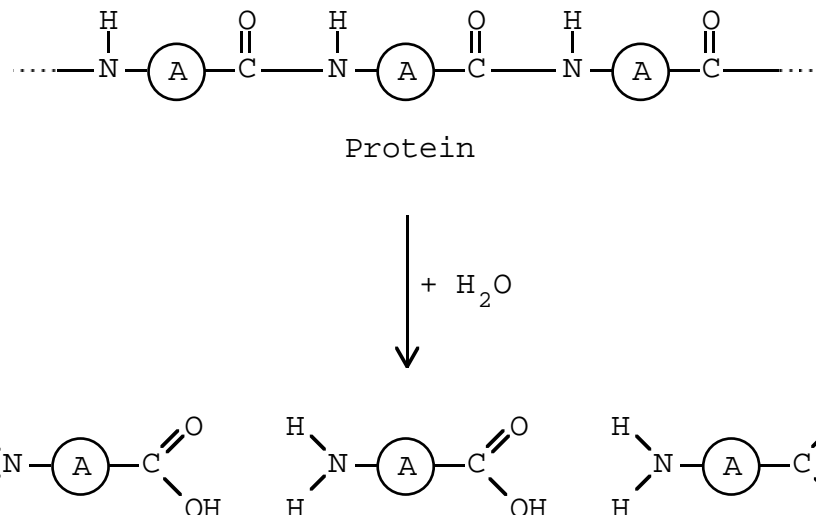


Giant molecules formed in this way are called 'polymers'. Proteins are polymers.

The new bond formed is called an amide (peptide) link :

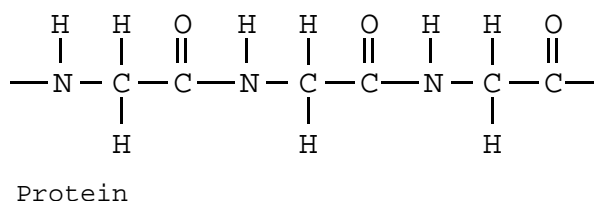
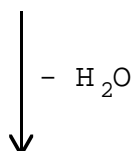
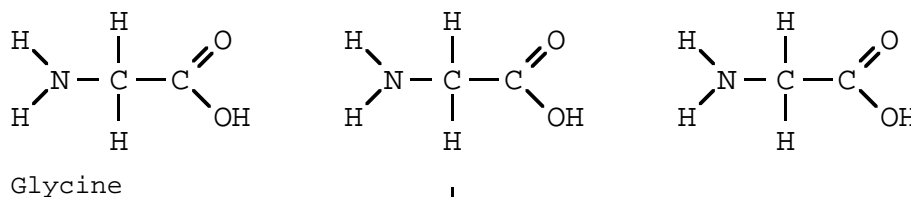


The formation of a protein can be reversed by reacting the protein with Water (**hydrolysis**):

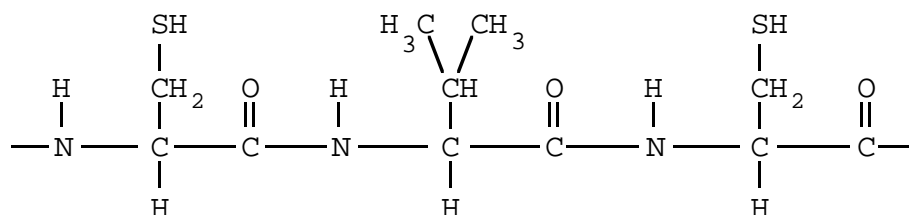
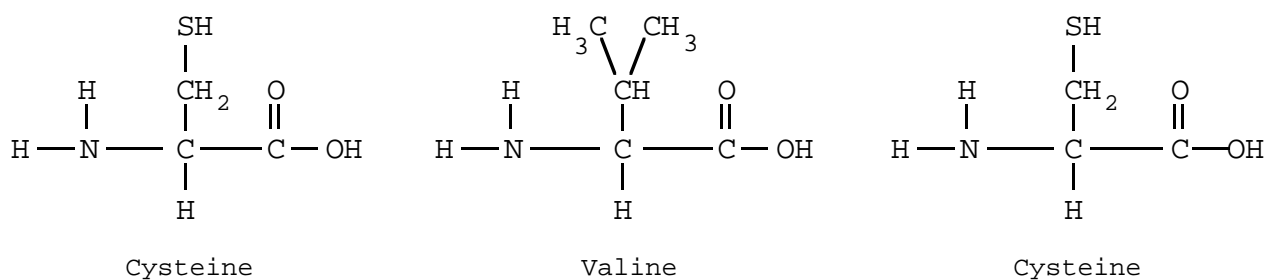
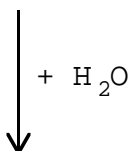
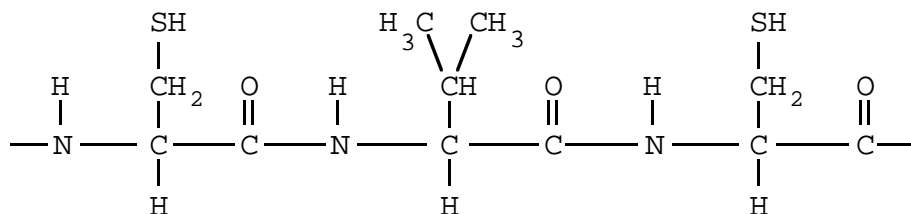


PROBLEM 1

Draw the structure of the protein formed on polymerisation of Glycine. At least three Amino acids must be included.

ANSWER**PROBLEM 2**

Draw the structure of the three Amino Acids formed on hydrolysis of the following protein.

**ANSWER**

PROTEINS IN THE BODY

Most animal tissue is made from proteins. In our bodies, proteins in the foods we eat are broken down into amino acids by hydrolysis during digestion. Proteins specific to the body's needs (hair, skin etc) are then built up from the amino acid pool.

Proteins are thus involved in the maintenance and regulation of life processes and include many hormones (e.g. insulin), haemoglobin and enzymes.