

Macromolecules

Big, Large, Nonkin

Grouping of 2 or more atoms

Types

Characteristics

1. Made of the **Elements** C,H,O,N,S & P
2. **Organic**. Made of Carbon
3. Bonded Covalently, Hydrogen, or Peptide Bonds.
4. Have a **Monomer/Polymer** System

Dehydration synthesis

"- H₂O to make"

Monomer
Small, singular building blocks

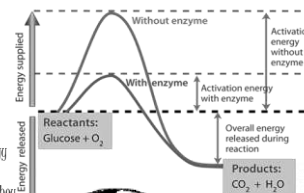
Polymer
Group of Monomer Bonded together

Hydrolysis

"+ H₂O to break"

Active Site - a region on an enzyme that binds to a protein or other substance during a reaction.

Enzyme Action



Protein

- reactions and **lower** activation energy
- **Lock & Key Fit**. Enzymes are specific to **Substrate** molecule they act on
- They are **Not Destroyed** to a reaction. They can be **reutilised**.

Competitive inhibition

Non-competitive inhibition

Tube 1: Glucose
Tube 2: Potato Juice
Tube 3: Cream
Tube 4: Albumin

Function

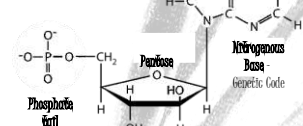
Structure

Elements:
CHON, & P

Polymers

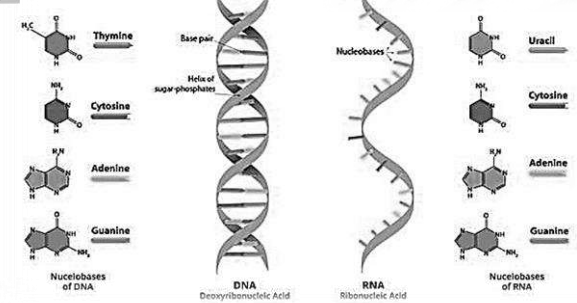
Monomer

Nucleotide



Makes DNA & RNA

Makes Proteins



Test with **Proteins**
- Test: Biuret
+ Test: Lavender

Actin and Myosin
Protein Filaments

Function

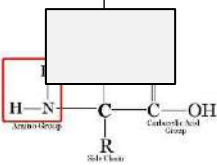
Structure

Elements: CHON, & S

- Enzymatic Activity
- Builds Muscle

Monomer

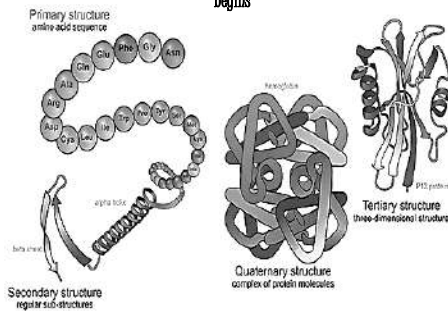
Polymers



Amino acids are organic compounds that contain **amino** (-NH₂) and **carboxyl** (-COOH) functional groups, along with a **side chain (R group)** specific to each amino acid

- 20 different types of amino acids
- **Side chain or R group** determine **function** and type

Amino Acids are held together by **peptide bonds**, then the **folding** begins



Benedicts Solution

Carbohydrates

- Immediate Cellular ENERGY
- Monomer
- Polymer
- Monosaccharide
- Disaccharide
- Polysaccharide
- Glucose
- Sucrose
- Starch
- Glycogen
- Cellulose
- Iodine

Macromolecules

Organic

Hydrolysis

Dehydration

Lipids

Long term Energy STORAGE

Phospholipids

Hormones / Waxes

Glycerol

Fatty Acids

Saturated

Unsaturated

Triglycerides

Sudan III

Proteins

Biuret

All Cellular Functions
Enzymatic Activity
Builds Muscle

Amino Acids

Polypeptides

Enzymes

Inhibition

Nucleic Acids

Transmit Genetic or Hereditary Info
Make Proteins

Nucleotide

DNA

RNA