Partial work N°4: Preparation of various solutions

1. Aim

- Know how to prepare a given solution from a solid or liquid.

2. Princip

- **Molar concentration (molarity):** is the number of moles of solute per liter of solution.

$$c = \frac{n}{V}$$

- **Normality:** it is used in situations involving acid-base chemistry, it depends on the chemical reaction being studied.
- **Dilution:** is the process of decreasing the concentration of a solute in a solution.

$$c_1 V_1 = c_2 V_2$$

c1 = initial concentration or molarity

V1 = initial volume

c2 = final concentration or molarity

V2 = final volume

3. Material

- Balance
- Volumetric flasks
- Pipettes
- Dropper
- Funnels
- Beakers

4. Reagents

- Glucose
- NaOH
- Sucrose

5. Manipulation

a. Preparation of a solution by dissolving a solid compound

- Preparation of a 0.4N solution (NaOH) in a volume of 50ml.
- Preparation of a sucrose solution of 0.2mol/l in a volume of 50ml.

- **Protocol**

- Accurately weigh the mass of solute.
- Introduce the solid into a volumetric flask.
- Fill the volumetric flask three-quarters full with the distilled water.
- Shake to dissolve the solid.
- Finish gradually to adjust to the gauge line.

b. Preparation of a solution by dilution of a stock solution

- Preparation of a 50ml solution of 0.1mol/l glucose from a 0.4mol/l glucose solution.

- **Protocol**

- Take volume V of the stock solution.
- Put the stock solution into a volumetric flask.
- Add distilled water up to the gauge mark.