**Lab sheet (4)**

**Qualitative tests of lipids I**

**1- Solubility test:**

**Method**:

- Place 0.5ml of oil in 6 test tubes containing 4ml of different solvents.

- Shake the tubes thoroughly, then leave the solution for about one minute.

|  |  |
| --- | --- |
| Tube | Result |
| acetone |  |
| chloroform |  |
| ether |  |
| ethanol |  |
| diluted acid |  |
| dilute alkaline |  |

**2- Saponification test:**

**Method**:

1- Place 2 ml of oil in a large test tube (or flask).

2-Add 4 ml of alcoholic potassium hydroxide.

3- Boil the solution for 3 minutes. After this period, make sure it is perfectly saponification process, by taking a drop of the solution and mix with the water if oil separated indicates that the non-completion of the saponification. In this case, continued to boil until all the alcohol evaporates.

4-Take the remaining solid material (soap) and add about **30 ml of water** and keep it for the following tests.

5- Shake the solution after it cools and noted to be thick foam.

**Result:**....................................................................................

**3-The effect of salt (NaCl) on soap solution :**

1-Place about 10 ml of soap in the beaker

2-Add small amounts of sodium chloride in batches, stirring until saturated solution

|  |  |
| --- | --- |
| Result | Tube |
|  | NaCl + Soap solution |

**4-Formation insoluble fatty acids salt (insoluble soaps):**

**Method:**

1-Add about 4 ml of distilled water to 2 ml of soap in two test tubes

2-Add to the first tube a few drops of calcium chloride, and to second tube MgCl .

|  |  |
| --- | --- |
| Result | Tube |
|  | Calcium Chloride + Soap solution |
|  | Magnesium Chloride + Soap solution |