**Laboratory Report:**

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* Faculty of Science
* Department of Chemistry
* Chem. 241L

**Title: Exp 4 Properties of Solutions-Colligative Properties**

Name: Ibrahim Abou Zahr

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Partners: Mohamad Abdel Rahman

**Report**

**Purpose/Aim**: Understanding and discussing the theory of a solution and its colligative properties.

**Procedure**:

1. Finding the solubility of compounds in Polar and Non – Polar solvents.

**Step 1**: We fill 1 ml of distilled water into 4 test tubes and 1 ml of Hexane in 4 other test tubes.

**Step 2**: We add in each test tube:

Tube 1: 0.1g of NaCl

Tube 2: 0.1g Glucose

Tube 3: 1 ml of Paraffin oil

Tube 4: 1 ml of Ethylene glycol

1. Boiling point properties:

**Step 1**: Using a clean beaker we add 100 mL of distilled water then boil the water and record its temperature.

**Step 2**: We add 5g of NaCl salt then boil the water and record the temperature.

**Step 3**: We add 15g of NaCl then boil the water to also record the temperature.

**Observations:**

**Part A:**

1. Adding water and with NaCl homogenizes the solution, then it is Polar.
2. Adding water and with glucose homogenizes the solution, then it is Polar.
3. Adding water and with Ethylene glycol homogenizes the solution, then it is Polar.
4. Adding water and with Paraffin oil makes the solution heterogeneous, then it is Non Polar.
5. Adding Hexane and with NaCl makes the solution heterogeneous, then it is Polar.
6. Adding Hexane and with glucose makes the solution heterogeneous, then it is Polar.
7. Adding Hexane and with Ethylene glycol makes the solution heterogeneous, then it is Polar.
8. Adding Hexane and with Paraffin oil makes the solution homogenous, then it is Non Polar.

**Part B:**

Temperature increases between all 3 beakers. (99 C , 101 C, 101.7 C)

**Calculations:**

Delta T = Twater + solid – Twater

= 4.7 C

**Conclusion:**

**Part A:**

Polar dissolves Polar.

**Part B:**

As T increases n also increases.