University Center A. Elhafidh Boussouf Mila

Institute of Science and Technology

Department of Mechanical and Electromechanical Engineering Process Engineering 2nd year

**Solution Chemistry practical’s Works**



**Dr : Merzouki S.**

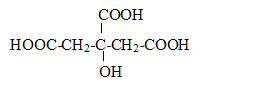
**2022/2023**

**Experiment 3 : titration followed by pHmètrie and conducty-meter of citric acid in lemonade**

During this experment, we will learn how to measure using the pH meter and know the pH of drinks.

# Introduction

Lemonade is a soft drink containing an acidifier designated E330: it is citric acid which will be designated here in the form H3A. In systematic nomenclature, citric acid is named: 3-carboxy-3-hydroxy-pentanedioic acid.



reagents: Lemonade, NaOH 10-1N.

# Procedure:

1. Using a water pump, degas about 80 mL of lemonade, creating a depression above the constantly agitated liquid for about ten minutes.
2. Take exactly 50 mL of lemonade and pour them into an Erlenmeyer.
3. Perform the dosing assembly (same protocol as the previous experience).
4. Measure pH and σ for each value of VB.
5. Draw the curve pH=f(VB) and σ=f(c).

# QUESTIONS :

1. What is the purpose of degassing?
2. Give dosing reactions.
3. Graphically determine the Veq and pKa of the different acid-base couples
4. Justify the observation of a single pH jump.
5. For the following colour indicators, the bend zones and colors of the acid and basic shapes are given.

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator | Shift zone | Acid tint | Basic tint |
| helianthin | 3,2 - 4,4 | red | yellow |
| bleu of bromothymol | 6 - 7,6 | yellow | bleu |
| Para nitrophenol | 5,4 - 6,6 | colorless | yellow |
| Phenolphthalein | 8,2 - 10 | colorless | pink |

How should I choose a colored indicator for acid-base dosing? Which is (are), in the list above, the one (those) that is suitable for the previous dosage?