

ENGINEERING CHEMISTRY LAB SYLLABUS

Thermodynamic Functions from EMF Measurements

- Zinc - Copper system

Chemical Kinetics

- Determination of reaction rate, order, and molecularity of ethyl acetate hydrolysis

Analytical Chemistry

- Colorimetric estimation of Ni^{2+} using conventional and smartphone digital-imaging methods

Laboratory Scale Preparations

- Preparation of para-aminophenol as a drug intermediate for the synthesis of acetaminophen

Electrochemistry

- Magnesium-sea water activated cell
- Effect of salt concentration on voltage generation

Potentiometry

- Analysis of iron in an alloy sample

Nanomaterials Synthesis and Characterization

- Preparation of tin oxide by sol-gel method and its characterization
- Size-dependent color variation of Cu_2O nanoparticles by spectrophotometer

Water Analysis

- Determination of hardness of a water sample by complexometric titration before and after ion-exchange process

Computational Chemistry

- Computational optimization of molecular geometry using Avogadro software



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