

IDENTIFICATION

Course code : E2CP4A9
ECTS : 2

DURATION

Lectures : 10
Tutorial classes : 4
Labs : 16
Total : 30

Project :
Personnal work :

ASSESSMENT

2 Written exams (2h/2h) + 1 Lab report

TEACHING MATERIALS

LANGUAGE

English

CONTACT

Joël COUPRIE
joel.couprie@univ-reunion.fr

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UE : AGROALIMENTAIRE

COURSE : Physicochemical Analyses

SCOPE OF THE COURSE

OBJECTIVES

Students must be able to select and implement experimental techniques for analyzing liquid or solid samples. This module should be taught through problem-based learning (PBL) scenarios.

COMPETENCE AND SKILLS

- Be able to perform solvent extraction.
- Be able to perform fractional distillation.
- Be able to perform recrystallization.
- Be able to use a rotary evaporator (Rotavap) and describe its operation.
- Be able to use a Kofler bench.
- Be able to measure an optical index.
- Be able to analyze an NMR spectrum.

PROGRAM

1. Extraction Techniques

- Separating funnel.
- Continuous extraction using a Soxhlet apparatus.

2. Purification Techniques

- Fractional distillation.
- Recrystallization.
- Rotary evaporator.

3. Identification Techniques

- Melting point.
- Optical index.
- Optical rotation.
- TLC (Thin Layer Chromatography).
- Spectroscopy : analysis of provided IR and NMR spectra.

4. Titration Methods

- Calibration-based titration.
- Direct or indirect titration.

BIBLIOGRAPHY

REQUIREMENTS

Chemical equilibria (TC) Organic Chemistry II