UCLouvain

wfarm2508

2023

Isolation and Structural Analysis of Natural Products

3.00 credits	22.5 h	Q2

Teacher(s)	Leclercq Joëlle (coordinator) ;Muccioli Giulio ;
Language :	French > English-friendly
Place of the course	Bruxelles Woluwe
Main themes	- Extraction, fractionation and purification methods of compounds from complex media: advantages and limits of the different methods. - Mass spectrometry: ionisation techniques, ions analyses and main fragmentations. - Nuclear Magnetic Resonance (NMR): basic principles - Use of spectral data for structure determination of organic drugs
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 At the end of this course, the students should be able to propose a method of extraction and purification for different types of organic molecules in complex media and identify the structure of simple compounds from spectroscopic data.
Evaluation methods	written and oral exam
Teaching methods	theoretical courses, inverse courses and exercises
Content	The course is divided in 4 parts: 1. Extraction, fractionation and purification methods of organic molecules from complex media: extractions from solid media (SFE,) or liquid-liquid, preparative chromatographies on different stationary phases: practical aspects, advantages and limits. Students will receive notes and a general presentation. Discussion and explanations will be given according to their questions. 2. Mass spectrometry, ionisation techniques (EI, FAB, CID, ESP, TSP, APCI,), analysis methods (ion trap, quadrupole, magnetic systems,) and major fragmentation. 3. NMR: essential data of NMR allowing the student to use information form 1D 1H and 13C NMR spectra: 2D NMR is also rapidly explained. 4. Case studies: using real spectra, the students will learn how to determine structures.
Inline resources	slides on Moodle
Bibliography	• "identification spectrométrique des composés organiques (Silverstein, 2 ème édition, De Boek éd.)
Other infos	Examination: students will receive spectra from a simple compound and a publication on purification of natural molecules. They will have to determine the structure of the molecule and comment the method of purification. Notes are allowed during the preparation. Students will then present and defend their work in front of the teachers who will also question them on the general theoretical aspects. Note will be the ponderated som of the three parts
Faculty or entity in charge	FARM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Pharmacy	FARM2M	3		🔍