Organic chemistry

ECTS
6 crédits

Hourly volume
75h

Introducing

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- Spatial and electronic structures of molecules to understand the main reaction mechanisms and stereochemistry consequences.

- Basic reaction mechanisms of chemical reactions of life and industrial organic chemistry.

The student will be able to:

- Identify key functions and naming chemical compounds.
- Represent the chemical compounds (Newman, Fischer, Cramż)
- Distinguish the different types of stereoisomerism: conformational isomerism, enantiomers, diastereomers, E/Z isomerism…
- Analyze the electronic effects (inductive and mesomeric effects) in a molecule.
- Describe the different classes of reagents and reactive intermediates.
- Describe the main reaction mechanisms encountered in chemistry: radical substitutions on alkanes (SR), electrophilic additions to alkenes (EI), aromatic electrophilic substitutions (SE), aliphatic nucleophilic substitutions (SN1 and SN2), elimination (E1 and E2), Reactivity of carbonyl compounds: nucleophilic addition, acidity of alpha hydrogens.

- Make organic synthesis implementing the basic experimental techniques of organic chemistry.

Spectroscopies and Spectrophotometry (UV visible : principles, theory Beer Lambertżs Law. IR and Mass Spectroscopies : principles, instrumentation)

Necessary prerequisites

I1ANETCH Chimie des solutions

Practical info

Location(s)

Toulouse