UCLouvain

lchm1341

2020

Organic chemistry III

Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

4 credits	30.0 h + 15.0 h	Q2

Teacher(s)	Riant Olivier ;Robiette Raphaël ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	Frontier orbital theory. Fukui treatment. Thermal activation and photochemistry. Cycloadditions: regio and stereoselectivity. 1-3 dipolar cycloadditions. Rearrangement of Cope and related reactions. Cationic polycyclisations. Polymerizing cations. Biomimetic reactions. Radical polycyclisation. Polymerizing radicals. Natural antioxydants.
Aims	1 In the continuity of the organic chemistry II course, this course follows the study of reaction intermediates and reaction mechanisms. A first part is dedicated to pericyclic reactions and to frontier orbital theory. Connections with the physical chemistry course will be highlighted. The second part treats the reactivity of carbocations and radicals. Examples from the biochemistry course will be used to illustrate these concepts. In both parts emphasis is put on all aspects of selectivity while creating new bonds. - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Evaluation methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** Written exam
Teaching methods	**Due to the COVID-19 crisis, the information in this section is particularly likely to change.** 13 magistral lectures of 2h and 6 classroom exercices sessions.
Content	Les chapitres abordés dans le cadre de ce cours sont - Théorie des orbitales moléculaires - Les réactions électrocycliques - Les cycloadditions – [4+2] – [2+2] – (3+2) - Les réarrangements sigmatropiques - La chimie des carbènes - La chimie des radicaux - Les carbocations
Inline resources	Slides used for the magistral lectures, review articles covering the different chapters of the course as well as exercices are available on moodle. https://moodleucl.uclouvain.be/course/view.php?id=11010
Bibliography	Les livres de référence suivants sont conseillés - F. Carey & R. Sunberg, *Advanced Organic Chemistry*, 5 ème edition, Parties A & B. Disponible en ebook sur DIAL. - S. Warren & J. Clayden, *Chimie Organique*, seconde édition. Ces livres sont disponibles à la BST Le cours ne fait appel à aucun support particulier qui serait payant et jugé obligatoire
Faculty or entity in charge	CHIM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Chemistry	CHIM1BA	4	LCHM1111 AND LCHM1141 AND LCHM1244 AND LCHM1245	