

UE Synthetic strategies



Niveau d'étude
Bac +5



ECTS
6 crédits



Composante
UFR de Chimie
et de biologie



Période de
l'année
Toute l'année

Diplômes intégrant cet élément

- Master Chimie

- › Langue(s) d'enseignement: Anglais
- › Ouvert aux étudiants en échange: Oui
- › Code d'export Apogée: YAOS9U41

Présentation

Description

Course outline:

The total synthesis of a complex organic molecule, such as a drug or a bio-active natural product, may be a difficult task, especially if it contains a large number of carbon atoms, many functions (or, indeed, no function at all) and/or rings of various size. The way leading to the final target may be even harder to find if lots of stereogenic centers are present. Strategies to overcome such difficulties will be presented, both in a general perspective and in a series of examples selected whether for their interest in the history of total synthesis, or because they are representative of the most recent developments in the field.

Details:

- 1- General strategy
- 2- Alkene synthesis
- 3- Three-membered rings
- 4- Four-membered rings
- 5- Five-membered rings

- 6- Six-membered rings
- 7- Larger rings
- 8- Condensed rings
- 9- Silicon chemistry
- 10- Rearrangements

Throughout these chapters, lots of representative total syntheses (ca. 50) will be outlined, e.g. pheromones, morphine, taxol, penicillin, oseltamivir (Tamiflu), chlorophyll A ...

Heures d'enseignement

CM	CM	36h
TD	TD	4,5h

Pré-requis recommandés

Prerequisites:

advanced level in organic Chemistry

Compétences visées

Skills:

Be able to plan the total synthesis of any given target molecule starting from available compounds.

Infos pratiques

Contacts

Responsable pédagogique

Yannick Vallee

✉ Yannick.Vallee@univ-grenoble-alpes.fr

Lieu(x) ville

➤ Grenoble



Campus

➤ Grenoble - Domaine universitaire