From bonding to catalysis

ECTS
3 crédits

Etablissement(s)
UFR des Sciences fondamentales et biomédicales, UFR Chimie

Volume horaire
24h

Période de l'année
Semestre 2

En bref

- **Langue(s) d'enseignement:** English
- **Forme d'enseignement :** Cours TD
- **Ouvert aux étudiants en échange:** Non

Présentation

DESCRIPTION

This course is an introduction to organometallic catalysis by transition metals in homogeneous phase and allows students to understand the basic concepts of this domain. Particular emphasis is placed on the comprehension of reaction mechanisms and metal-ligand interactions in order to determine the optimal reaction conditions. Coordination chemistry for organometallic catalysis

OBJECTIFS

Basic of coordination chemistry : M-C, M-H bonds Ligands : phosphines, Carbenes NHC Pi Ligands : cyclopentadienyl, allyl, alkene, alkyne… Elementary steps in organometallic chemistry: oxidative addition, reductive elimination, migratory insertion, nucleophilic and electrophilic attack. Basic catalysis concept. C-C coupling, Wacker process, metathesis

Transition-metal catalysis : Mizoroki-Heck coupling: mechanism – regioselectivity – Halide and pseudo halides reactant – Ligandless conditions – Cyclization –
Stereochemical aspect and asymmetric variant. - Cross coupling: Mechanism – Kumadu-Corriu – Neigishi – Stille – Suzuki-Miyaura –
Hiyama – Sonogashira - Allylic Alkylation

HEURES D'ENSEIGNEMENT

From bonding to catalysis	Cours Magistral	12h
From bonding to catalysis	Travaux Dirigés	12h

PRÉ-REQUIS OBLIGATOIRES

Mastery of basic knowledge and concept in inorganic and organic chemistry

En bref

CONTACTS

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LIEU(X)

Campus Saint Germain des Prés

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