

UE Bioorganic and bioinorganic chemistry



- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** YACH8U23

Presentation

Description

This teaching block is divided into two sections, bioinorganic chemistry and bioorganic chemistry. Bioorganic chemistry part is focused on the heterocycles chemistry mainly nitrogen(s) containing compounds (i.e. pyridines, pyrimidines, pyrroles, purines and nucleosides). Indeed heterocyclic compounds represent interesting organic compounds as they are involved in the design of many pharmaceuticals as well as in biological processes. An overview of the roles that are played by the metal ions in life (biotransformations, dioxygen transport, drug elimination) and specially in the stabilization of nucleic acids will then be presented.

Course parts

UE Bioorganic and bioinorganic chemistry - TD	Tutorials (TD)	13,5h
UE Bioorganic and bioinorganic chemistry - CM	Lectures (CM)	36,5h

Recommended prerequisites

Inorganic Chemistry (bachelor program, CHI502), Chemistry of Biomolecules (CHI735)

Period : Semester 8

Skills

Knowledge of the role of the metal ions in biology and medicine / Chemical reactivity and methods of synthesis of nitrogen containing heterocycles

Bibliography

I. Bioinorganic section:

1. Dedicated spectroscopic tools
2. Structuration and biomineralization
3. Dioxygen transport
4. Biotransformations (various oxidations, hydrolysis ...)
5. Electron transfer
6. Regulation of metal concentration (iron)
7. Inorganic chemistry for medicine
8. Metals and DNA

II. Bioorganic chemistry

1. Pyridine and benzopyridine derivatives
2. Pyrrole and indole derivatives
3. Pyrimidine derivatives
4. Purines
5. Nucleosides
6. Oligonucleotides

Useful info

Contacts

Program director

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Program director

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Place

› **Grenoble**



Campus

› [Grenoble - University campus](#)