



UMR CNRS 8076

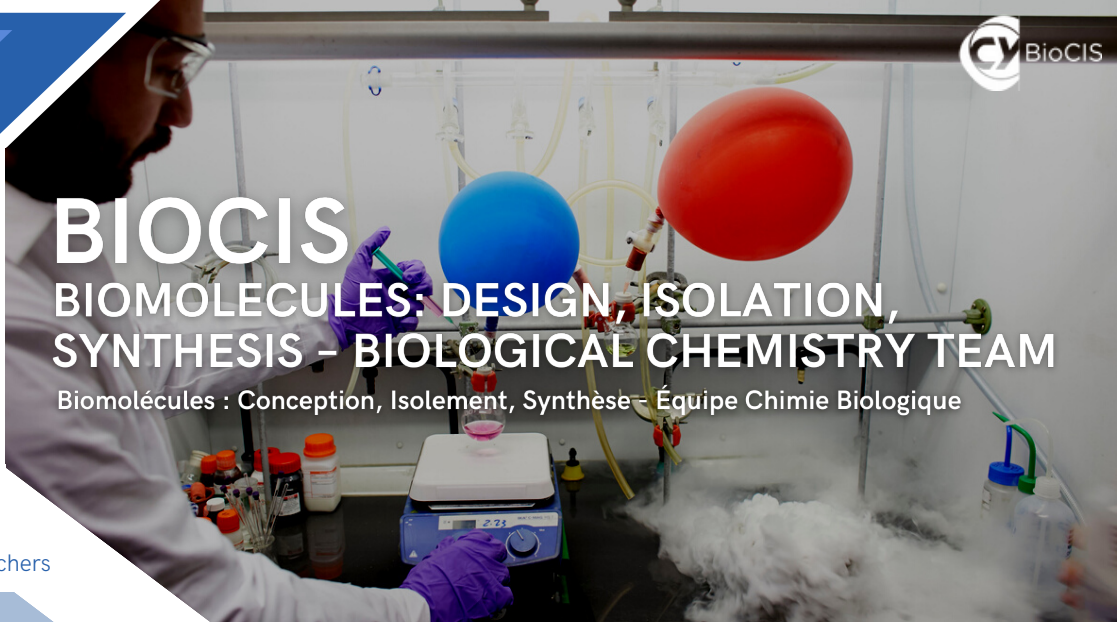
15 teacher-researchers

9 doctoral and postdoctoral researchers

BIOCIS

BIOMOLECULES: DESIGN, ISOLATION, SYNTHESIS – BIOLOGICAL CHEMISTRY TEAM

Biomolécules : Conception, Isolement, Synthèse – Équipe Chimie Biologique



CYU's Chemical Biology Team, part of Paris Saclay University's joint research unit UMR CNRS BioCIS (Biomolécules: Conception, Isolement, Synthèse), brings together researchers around the general topic of chemistry for life sciences and studies the synthesis, characterisation, and assessment of biomolecules, as well as the development of new synthetic methods.

Specialising in the chemistry of modified amino acids and peptides, particularly fluorinated peptides, glycosides, and glycopeptides, its work has led to applications in biological and medicinal chemistry.



KEYWORDS SCIENCE

- Amino acids
- Peptides
- Fluorinated peptides
- Glycosides
- Glycopeptides

KEYWORDS APPLICATIONS

- Treatments for cancer
- Treatments for neurological diseases
- Treatments for infectious diseases
- Treatments for rare diseases
- Heritage



APPLICATIONS AND INDUSTRIAL SECTORS

- Therapeutic innovation: neurological diseases, rare or neglected diseases, infectious diseases, cancer

PATENTS · SOFTWARE

4 patents

- ▣ Plastic degradation, biomass degradation, TiO₂

INDUSTRIAL PARTNERSHIPS · SPIN-OFFS

- ▣ Around 5 collaborations per year
Eiffage, Institut Pasteur, Sika, Placo, etc.

KNOW-HOW · SKILLS · EXPERTISE · SPECIFIC FEATURES

- ▣ **Natural substances (Saclay team)**
Extractions (plants, marine organisms, insects, microorganisms), analytical development, biomimetic synthesis, total synthesis
- ▣ **Synthetic methods**
Organometallic catalysis, eco/biocompatible multicomponent processes, glycochemistry, fluorinated molecules, peptidomimetics
- ▣ **Molecular modelling (Saclay team)**
Protein-protein interactions, molecular recognition
- ▣ **Pharmacochemistry and pharmacology**
Treatments for cancer, synthesis of new PROTACs

EQUIPMENT

- Nuclear Magnetic Resonance: Bruker Ascend 400 MHz, Avance Neo, autosampler 25 positions
- HPLC: Agilent 1200 Series Analytical HPLC, UV/ELSD detector, reverse phase / chiral normal phase, Agilent 1260 Infinity II Semi-Preparative HPLC
- Mass spectrometry: HPLC/MS, Q-TOF ULTIMA API, Acquity Waters
- Analytical spectroscopy: Jasco V-730 UV/Vis Spectrophotometer, Anton Paar MCP200 Polarimeter
- Microwave reactor: CEM Discover
- Automatic purification system: Büchi purification system (C-605/C-615/C-660)
- Isothermal calorimetric titration: GE Healthcare iTC200 Microcalorimeter
- Biosensor: SAW Instruments samX biosensor
- Freeze dryer: LabCONCO Freezone 4.5
- Spectrofluorometer: Jasco FP-8350 with thermostat and plate reader

