

## PhD Offer:

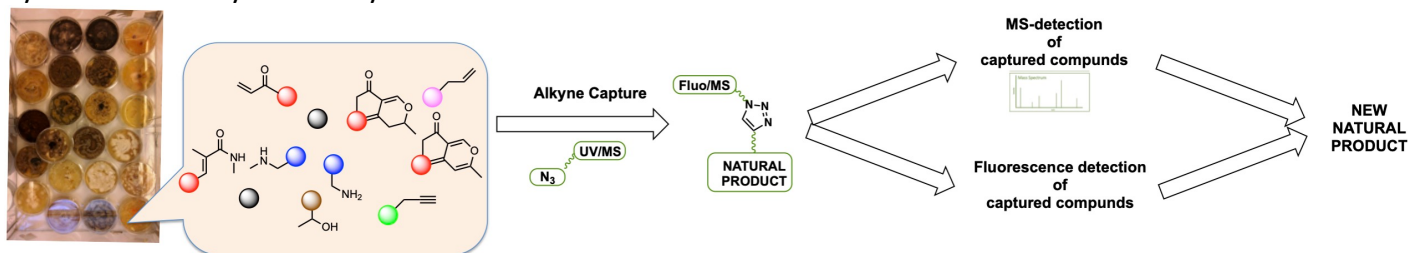
### Click reactions for detection of alkyne-containing natural products

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The project is based on the design of probes for the sensitive, rapid, and selective detection of secondary metabolites in various complex crude extracts from microorganisms. Indeed, the discovery of new Natural Products remains just as challenging when using classical purification methods, as efforts are often thwarted by the rediscovery of already known molecules.



In this project, the reactivity-based screening approach will enable the selection of a specific functional group of the Natural Product (alkyne) and leverage its intrinsic reactivity for detection. Fluorogenic click-probes, allowing the obtaining of a fluorescent signal after coupling and MS-tagged probes allowing enhanced MS detection will be developed.

The project will be in collaboration with the Museum National d'Histoire naturelle in Paris.

Various tasks will need to be carried out:

- Synthesis of new fluorogenic and MS-tagged probes to facilitate the detection.
- Screening of fungi (HPLC, MS, MS/MS, data analysis), involving the characterization of new alkyne-containing natural products.

**PhD to start in October 2026.**

A background in organic chemistry or natural product chemistry is mandatory. Applicants should hold a Master's degree (M2) with an average score of at least 13/20.

The candidate must be motivated by a multidisciplinary approach and have a strong interest in natural products. Experience with analytical and preparative HPLC and/or fluorescence and/or Mass Spectrometry would be an asset. Please send your CV, cover letter, academic transcripts (M1 and M2), and the email addresses of two references who can provide letters of recommendation to [xavier.franck@insa-rouen.fr](mailto:xavier.franck@insa-rouen.fr).