

LabEx LERMIT

Allocations doctorales - Appel 2015

PhD Fellowships Call 2015

PROJECT TITLE:

Designing Novel reactions to Create New Drugs

HOST LERMIT LABORATORY/TEAM:

Name: Institut de Chimie des Substances Naturelles

UPR 2301, LabEx LERMIT

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SUMMARY OF THE PROJECT (200 words max):

As the occurrence of resistant and even **multi-resistant bacteria** increases worldwide, there is a pressing urgency to develop new antibiotics and/or resistance-suppressing agents. β -lactams were once thought to be the panacea for infectious diseases but are now, literally, plagued by emerging and increasing resistances. Nevertheless this privileged scaffold should not be totally discarded.

With this design in mind we recently developed a variant of the Staudinger synthesis that leads to novel β -lactam-like molecules. These molecules have been shown to possess extremely interesting activities in the field of **antibacterials**.

We now wish to build on these promising results to pursue our **synthetic and therapeutic research program**. Devising **novel reactions** grants access to unprecedented frameworks upon which multifarious synthetic opportunities can be thought about. By expanding the uncharted chemical space around the venerable β -lactam scaffold we are confident that promising therapies are within reach.

In line with the objectives of the LERMIT, and specifically the TARGET and RESISTANCE axes, all new synthesized compounds will be systematically evaluated for their **therapeutic relevance** in the antibiotic field.