



PhD 2023-2026

Development of New Methodologies for Applications in Organic Synthesis

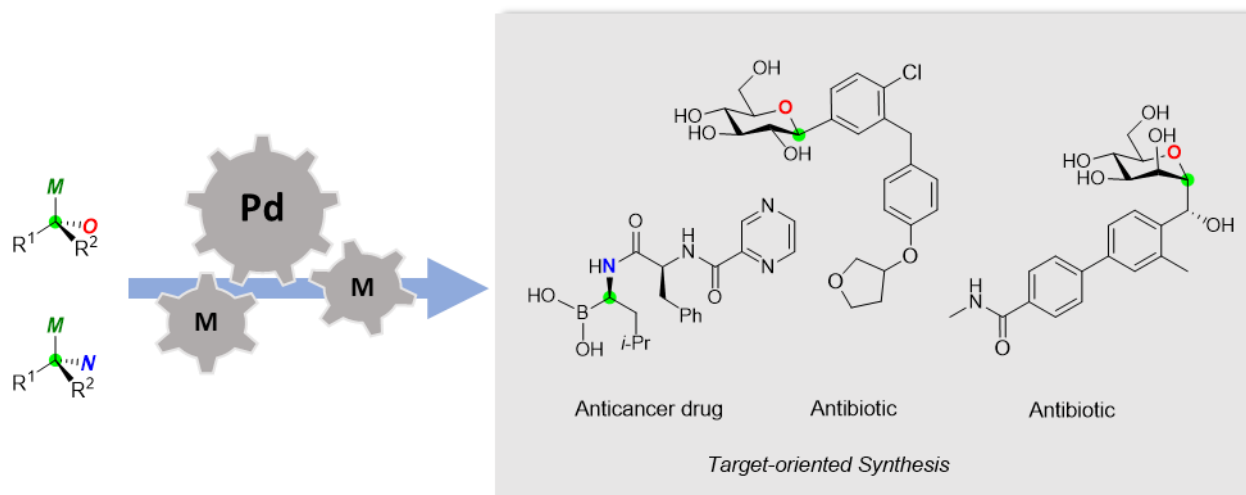
Laboratory : CEISAM (Chimie et Interdisciplinarité : Synthèse, Analyse, Modélisation), équipe CORAIL

Financial support : Doctoral contract financed by Nantes Université

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The development of new transformations catalyzed by transition metals remains essential to allow the synthesis of highly functionalized molecules such as natural products or active pharmaceutical ingredients. Considered only applicable for coupling sp^2 hybridized carbons for a while, metal-catalyzed carbon-carbon coupling reactions now allow the coupling of sp^3 carbons. The proposed thesis subject aims to develop new coupling reactions with oxygenated or nitrogenous organometallic reagents in the α position to access highly functionalized complex molecules. The use of organometallics carrying a stereogenic carbon will be studied in particular and will afford access to new asymmetric transformations.



The realization of this project will allow a major advance in the field of Csp^3 - Csp^3 couplings, in particular to access functionalized molecules containing a stereogenic quaternary carbon. The application of the methodologies developed for the synthesis of complex molecules will also be studied.

Location: The research work will be carried out within the CEISAM-UMR CNRS 6230 laboratory, offering all the equipments necessary for the development of the subject and installed on the Lombarderie Campus of Nantes University.

Candidate profile: The candidate must demonstrate excellent skills in organic synthesis and organometallic catalysis. The candidate must have a Master's degree in chemistry with a strong knowledge of organic chemistry, show initiative and autonomy and appreciate teamwork. Please send a cover letter, transcripts of records and a detailed CV containing the contact details (e-mail and/or telephone) of two people likely to give an assessment.