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Postdoctoral Position in Organic Synthesis (12 months)

Selective Pd-catalyzed C(sp³)-H functionalization of cyclobutane β-amino acid derivatives: Application to functional peptidic foldamers

Work place: COBRA Laboratory, University of Rouen-Normandie; Heterocycles Team.*(Short periods in Orsay (ICMMO, Université Paris-Saclay; CP³A group) will be also required during the program).***Expected starting date:** October 2021**Contract Period:** 12 months**Gross Salary:** 2840 € / month**Funding:** Labex SynOrg - CHARMMMAT**Scientific Supervisors:** Dr. Cédric Schneider & Dr. Thomas Boddaert**Keywords:** Cyclobutane β-amino acid, C-H Activation, Foldamer Science

In the area of foldamer Science, enantiopure *cis*- and *trans*-cyclobutane β-amino acid (ACBC) derivatives are building blocks particularly attractive as monomer units for the preparation of peptidomimetic architectures due to their resistance to proteolysis and displaying structural mimicry. Although there is an increasing demand for their synthetic access, the development of efficient, selective and step and atom economical approach to derivatize the enantiopure *cis*- and *trans*-ACBC by the construction of C-C bonds at the peripheral sites C₃ and/or C₄ remains a challenge. In response to this current issue, this collaborative research project, resulting from a valuable combination of complementary expertise, will lie in the increase of the ACBC scaffold structural diversity by opening up the hitherto unexplored chemical space to C₃ and/or C₄ substituted ACBC derivatives *via* regio- and stereoselective directed Pd-catalyzed C(sp³)-H functionalization methodologies. Finally, designed targeted building blocks will be subsequently used in the synthesis of architectural design peptidomimetics, which will participate in future innovations in the field of foldamer-based drug molecules.

▪ Candidate profile:

- PhD in organic chemistry (Synthetic methodology or Organometallic chemistry)
- Strong skills (theoretical & experimental) in Organic & Organometallic Chemistry
- Strong communication & leadership skills
- Motivated, curious, autonomous

▪ Application procedure: (End of application: July 27, 2021)

- Cover letter
- Detailed Curriculum Vitae
- Short research summary
- Contact detail of 2 references able to provide recommendation letters

Please send all documents to: Cédric Schneider (cedric.schneider@univ-rouen.fr) and Thomas Boddaert (thomas.boddaert@universite-paris-saclay.fr)