

**Doctoral position available****Mechanochemical Approach for the Synthesis of Novel Coordination Complexes**

Mechanochemistry is an innovative technology which has recently been identified by IUPAC as one of the emerging technologies of chemistry capable of making our planet more sustainable.<sup>[1]</sup> Mechanochemistry, and more specifically ball-milling, makes it possible to work without excess of reagents, in short reaction times and to access compounds inaccessible in solution,<sup>[2]</sup> with few examples in the synthesis of metal complexes.<sup>[3]</sup>

Our research team has recently shown that it was possible to design new ligands such as 2-pyridylsydnones for the coordination of various metals (Cu, Co, Zn).<sup>[4,5]</sup> As a continuation of this work, and based on the expertise of our team in ball-milling, this project proposes the synthesis of novel coordination complexes, possessing differently substituted sydnones as the metal ligand. The project will thus involve the development of novel methodologies, in agreement with the principles of green chemistry. A part of the project will be dedicated to the understanding of the solid-state mechanisms involved during the milling. The coordination complexes will be evaluated for their catalytic activity and biological properties.

This work will be performed in the Green Chemistry and Enabling Technologies research team ([www.greenchem.cnrs.fr](http://www.greenchem.cnrs.fr)), which is part of the Institute of Biomolecules Max Mousseron (<https://ibmm.umontpellier.fr>), located in Montpellier (France), under the supervision of Dr F. Lamaty and Dr X. Bantreil.

**Keywords:** Organic chemistry, Coordination chemistry, Green chemistry, Ball-milling.

**Funding:** Contrat doctoral, gross monthly salary: 1769 €.

**Profile:** Holders of a Master Degree in molecular chemistry or equivalent, highly motivated candidates must have a strong interest in organic chemistry, coordination chemistry, green chemistry and medicinal chemistry. Skills in classical synthesis in solution, in analysis of organic compounds (NMR, IR, MS...) are required. A good level in English will be necessary.

Applications (CV + cover letter + recommendations letters) should be sent as soon as possible by email to [frederic.lamaty@umontpellier.fr](mailto:frederic.lamaty@umontpellier.fr) and [xavier.bantreil@umontpellier.fr](mailto:xavier.bantreil@umontpellier.fr).

**References**

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