

18-month Post-Doctoral Fellowship
(@Sorbonne-Université & @Chimie Paris-Tech)

Preparation of Biodegradable Polyesters by Tandem Reactions

Among the most promising biodegradable polymers that have been developed during the last decades, aliphatic polyesters can be hydrolyzed *in vitro* and *in vivo* within weeks to years. Regarding to their chemical synthesis, there is a need for new methodologies to access a wide range of polyesters structures, using soft reactions conditions. In this context, the ring-opening copolymerization (ROCoP) of epoxides and cyclic anhydrides obtained from organic acids and biosourced epoxides appears as an interesting pathway.

The main goal of this post-doctoral project is to introduce a new class of effective tandem catalysts for the synthesis of biodegradable and biocompatible polyesters, by connecting two independent and subsequent catalytic cycles: 1) the production of cyclic monomers ii) the well-controlled copolymerization. Metal complexes of silanol-functionalized polyoxotungstates provide single-site anchored catalysts and effective ligand frameworks that are required for achieving total conversion in the first step while reaching high control of the copolymerization.

Applicants must hold a PhD in inorganic, organometallic and/or polymer chemistry. Candidates should have an enhanced expertise in inorganic and organometallic synthesis and particularly in handling sensitive compounds. Additionally, The ideal candidate should also have a good adaptability allowing him to work in two different but complementary environments, inclination to teamwork, and good communication skills to report the progress of his work efficiently and concisely.

The offered position is funded by the Labex Michem and is opened for **18 months**, starting **sept/oct 2018** preferentially. Applicants are invited to submit a full curriculum vitae with the names of at least two referees.

Partner 1 : Geoffroy Guillemot

Edifices POLyMétalliques (EPOM)
(Direction : Pr Anna Proust)
Institut Parisien de Chimie Moléculaire
Sorbonne Université, Paris

Contact 1:

geoffroy.guillemot@sorbonne-universite.fr

Partner 2 : Carine Robert

Chimie Organométallique et Catalyse de
Polymérisation (COCP)
(Direction : Pr Christophe Thomas)
Institut de Recherche de Chimie Paris (IRCP)
Chimie Paris Tech – PSL, Paris

Contact 2 :

carine.robert@chimie-paristech.fr