

## PhD position

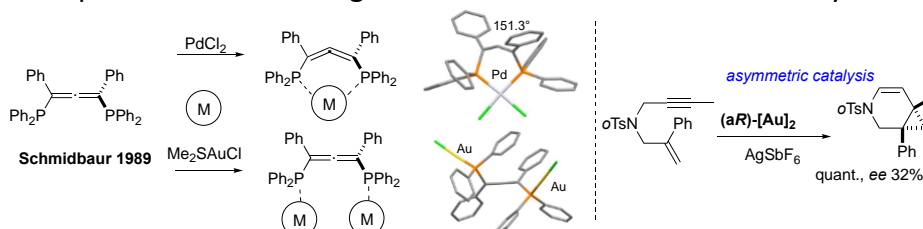
### Synthesis of New Chiral Ligand, bis-Phosphine Allene for Asymmetric Catalysis

In the context of the ANR PALCOCA program a Ph.D position is available from September 2024 in the MACO team at Institut Parisien de Chimie Moléculaire in Paris (France).

Persons involved: Prof. Virginie Mouriès-Mansuy (coordinator), Dr Clément Chauvier and Prof. Louis Fensterbank

#### Project description:

In our previously reported work,<sup>1</sup> we have studied the coordination property of a bis-phosphine allene initially reported by the Schimdbaur group. We have obtained encouraging findings, namely organometallic complexes and interesting results in terms of enantioselectivity.



The aim of the project is to design and develop a new family of rigid *S4*-symmetric bis-phosphine allene ligands with various chiral environments by varying the nature of the substituents on both the allene unit and the phosphorus atoms. The goal is to use the axial chirality of allene as a chirality inducer. Their ability to coordinate gold or rhodium salts or main group metals will be studied and evaluated in asymmetric catalysis. Mixed transition metal-main group complexes will be prepared and evaluated in asymmetric catalysis. Structural studies of these new species will be carried out by NMR and DFT, as well as by mass spectroscopic analysis, to be performed by Dr. Yves Gimbert and Dr. David Gatineau of Grenoble Alpes University.

#### Description of the position

The candidate must have a Master 2 degree or an ingénieur diploma in Molecular Chemistry, and ideally have a good expertise in organic and organometallic synthesis also in NMR spectroscopic analysis. An interest in asymmetric catalysis will be appreciated. Scientific curiosity, motivation and the ability to work as part of a team are essential.

#### Application

To apply the candidates should send a cover letter, a detailed CV with the name or addresses of minimum 1 referee to Prof. Virginie Mouriès-Mansuy at [virginie.mansuy@sorbonne-universite.fr](mailto:virginie.mansuy@sorbonne-universite.fr).

<sup>1</sup> *Chem. Commun.* **2016**, 52, 6785.