



Secteur des Sciences  
et Technologies

Invitation à la soutenance publique de thèse de  
**Monsieur Sébastien LELOUX**

Master en sciences chimiques

Pour l'obtention du grade de Docteur en sciences

« Study of reactions catalyzed by Copper (I) complexes :  
hydrosilylation, hydroboration and investigation of carbonylation  
reactions »

qui se déroulera  
**le vendredi 05 avril 2019 à 16h**  
**Auditoire SUD 09**  
**Place Croix du Sud**  
**1348 Louvain-la-Neuve**



 **UCLouvain**

During this thesis, three different projects have been realized. In the first one, new NHC-Capped Cyclodextrins (ICyDs) Cu complexes developed by Sollogoub and his team have been applied in different reactions for which our group had known success in the past. It was decided to study a copper catalyzed reaction that could be performed under mild conditions (temperature, pressure, etc.) but also in which side reactions were reduced to a minimum. Among the previous works done in the group, hydrosilylation of ketones answers all of these criteria and was therefore selected for this study.

In the second chapter of this project, our mechanistic in situ experience was further developed through the hydroboration of alkynes using Cu complexes.

Finally, in the last chapter of this project, several new copper based catalytic methodologies have been studied. Starting with alkynes (as they were used during the second part of this thesis), carbonylation reactions were performed using a dual Cu/Pd catalysis as previously studied in our team. In addition, alkenes were also used for the development of new methodologies leading to the synthesis of  $\alpha,\beta$ -unsaturated ketones.

Membres du jury :

Prof. Olivier Riant (UCLouvain), supervisor  
Prof. Yann Garcia (UCLouvain), chairperson  
Prof. Sophie Hermans (UCLouvain), secretary  
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Prof. Troels Skrydstrup (Aarhus University, Denmark)  
Prof. Matthieu Sollogoub (Sorbonne Université, France)