Secteur des Sciences et Technologies

Invitation à la soutenance publique de thèse de

Monsieur Cédric LENTZ

Master en Sciences Chimiques

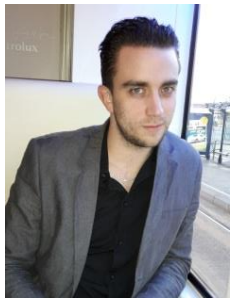
Pour l'obtention du grade de Docteur en Sciences

« Photophysics and photochemistry of trischelate Ir(III) complexes : towards the development of novel photoactive supramolecules »

qui se déroulera
le vendredi 07 septembre 2018 à 16h00
Auditoire LAVO51
Place Louis Pasteur, 1
1348 Louvain-la-Neuve

Membres du jury :

Prof. Benjamin Elias (UCL), supervisor
Prof. Yann Garcia (UCL), chairperson
Prof. Raphaël Robiette (UCL), secretary
Prof. Sophie Laurent (UMons, Belgium)
Prof. Olivier Riant (UCL)
Prof. Giovanni Poli (UMPC, France)
Dr. Ali Ates (UCB, Belgium)



UCL Université catholique de Louvain

Our entire world is in the grip of rapidly increasing environmental pollution and this issue is supported by global warming and energy crisis. This is mainly due to the use of chemicals to fulfill multiple demands of materials with various applications such as polymers, agriculture, pharmaceuticals,… which induce the production of different kinds of pollutants. There is an obvious demand over the world to reduce the amounts of these harmful materials. In that purpose, photoredox catalysis is emerging as a powerful tool in green chemistry and Ir(III) complexes represent one of the most promising solutions because of their high tunability and ability to absorb and convert light into chemical energy.

During this Ph.D. thesis, we aimed to develop photoactivatable Ir(III) cocatalysts to regenerate Pd(II) and Co(III) catalysts and, hence, avoid the use of stoichiometric harmful additives. Ir(III) complexes with varying first coordination sphere were deeply investigated to select the best photosensitizers. Thereafter, some of the investigated Ir(III) photosensitizers have shown valuable improvements when coupled to Pd(II) catalysts compared to well-known systems. In addition, several Ir(III)-Co(III) dyads were designed and their photophysical properties were tuned to favor H_2 photocatalytic production.