



Secteur des Sciences
et Technologies

Invitation à la soutenance publique de thèse de

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Master en Sciences et Technologies

Pour l'obtention du grade de Docteur en Sciences

« Development of novel polymer-based cathodes and electrolytes
for high performance batteries »

qui se déroulera

le mardi 11 décembre 2018 à 15h

Auditoire SUD 12

Place Croix du Sud

1348 Louvain-la-Neuve

Membres du jury :

Prof. Jean-François Gohy (UCLouvain), supervisor

Prof. Jacques Devaux (UCLouvain), chairperson

Prof. Charles-André Fustin (UCLouvain), secretary

Prof. Evelyne Van Ruymbeke (UCLouvain)

Prof. Dominique Hourdet (Ecole Supérieure de Physique et de Chimie
Industrielles de la ville de Paris, France)

Prof. David Mecerreyes (POLYMAT, University of the Basque Country, Spain)



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Over the last decades, batteries have rapidly evolved according to the environmental, economic and societal demands. Progress has been made in their lightweight, small size and autonomy with high specific energy. Lithium batteries (LiBs) are thus become the most widely used rechargeable electrochemical storage systems for portable electronic devices. Unfortunately, they still suffer from safety issues, limited power delivery and slow charging time. Thus, the development of new chemistries for the electrolyte and electrode active materials, which could be able to increase the performances of batteries remains challenges for our modern society. The use of polymers in batteries is recently investigated because they are known to offer a broad range of properties such as adjustable mechanical and thermal properties, according to their various structure and composition. This thesis focuses on designing new polymeric materials with enhanced conductivity in order to facilitate the charge transfers and ion diffusion processes within batteries. To achieve the goal of this project, the structure-property relationships are established based on polymer syntheses, battery processing and chemical characterizations.