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Titre de la thèse :

Electrochemically driven redox catalysis promoted by Halogen bonding

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Electrochemistry can be considered as powerful tool for qualitative and quantitative study of non-covalent halogen bonding (XB) as well as a method to control XB strength in supramolecular associations. The present project concerns the use of XB interactions for the activation of small molecules in electrocatalytic reactions. Electrochemically active XB donors and acceptors will be prepared and used for the formation of intermediate supramolecular XB complexes promoting the electron transfer process of the respective redox reaction. Three different reactions have been chosen for this project and will be investigated with the help of electrochemical and spectroscopic techniques: dissociative reduction of the carbon-halogen bond in organohalides; oxidation of inorganic halide anions; reduction of carbonyl groups.

Mots clés : halogen bonding, redox catalysis, electrochemistry, activation de liaisons covalentes

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