

# Elaboration et caractérisation des nanoparticules a base de chlorure d'étain SnCl<sub>2</sub> et l'application d'élimination de colorants par adsorption

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**Abstract:** Nanoparticles (NPs) have received considerable attention in recent years due to their unique physicochemical and optoelectronic properties and their applications in various sectors of chemistry, environment, medicine, agriculture and electronics. This dissertation will focus on three main parts, after an introduction to nanotechnologies: a bibliographic study on everything related to nanoparticles, their types, their synthesis methods, their characterizations, their properties and their applications. In the second part we have cited all the experiments of elaboration of our samples of nanoparticles (based on tin chloride) using the method of Co-precipitation so that at the end we have chosen the one that gives the best result to use it in the application of removal of methyl blue dye by adsorption. The third part shows that the results of our samples are excellent and from there we concluded that the nanoparticles (tin ferrites) and thanks to their magnetic behavior they allow to eliminate easily the methyl blue dye by magnetic field.

**Keywords :** Nanoparticles (NPs), Magnetic field