

# Elaboration et caractérisation et applications des nanoparticules Bi-M par la méthode de Co-précipitation

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**Abstract:** Research around nanoparticles (NPs) is very popular in the scientific community. This thesis consists in developing bismuth iron (BiO) nanoparticles by the Co-precipitation method, under an experimental protocol and under different temperature and PH conditions , then these nanoparticles were characterized by different analysis techniques: FTIR infrared spectroscopy, X-ray diffraction (XRD), and UV-Vis spectroscopy; then to use the nanoparticles for the application to the adsorption of the dye (Methylene blue, Naphthol blueblack, bromophenol blue and posceau s extra).

**Keywords :** X-ray diffraction (XRD), and UV-Vis spectroscopy;, UV-Vis spectroscopy, FTIR infrared spectroscopy