**ABSTRACT**

A simple colloidal processing method was used to synthesize chitosan Ag-TiO nanocomposite and its use aimed at the catalytic reduction of 4-nitrophenol to 4-aminophenol in the presence of NaBH as reductant. The nanocomposite catalyst was characterized using different technquies and revealed its better catalytic ability than pure TiO. Since the nanocomposites are readily improved from the solution phase without centrifugation or filtration. The catalytic activity trials were examined by changing the catalyst dose, concentration of NaBH amount of nitrobenzene and temperature. The reduction reactions were affected by the temperature of reaction medium and the concentration of NaBHThe photodegradation conditions were optimized by changing different parameters such as irradiation time, dosage, pH and initial dye concentration.