

## Synthesis and Characterization of Semiconductor Clay Nanocomposites and Removal of Drug Waste by Sonocatalytic Degredation

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It is the name given to the clay near montmorillonite (MMT) in France and was described by Knight in 1896. MMT; smectite, sodium-MMT, sodium (bentonite), magnesium-MMT (saponite and armargocide), potassium-MMT (metabentonite) and lithium- MMT (hectorite) are defined by different names<sup>1</sup>. The chemical composition of MMT  $[Al_{1.67}Mg_{0.33}(Na_{0.33})Si_4O_{10}(OH)_2]$  is shaped. The specific surface area varies between 750-800 m<sup>2</sup>/g<sup>2</sup>. ZnO, which has a wide band gap (3.2 eV), crystallizes in the form of crystals which are most stable in nature and hexagonal, technical term wurtzite<sup>3</sup>. In this regard, advanced oxidation processes (AOPs) is considered an alternative innovative method with in situ radical production to the other conventional methods<sup>4</sup>. Ultrasonic (US) processes, ozonation, Fenton chemistry and photocatalysis with semiconductors are such AOP's which are based on the production of highly reactive hydroxyl radicals having high oxidation potentials for many organic pollutants<sup>5</sup>.

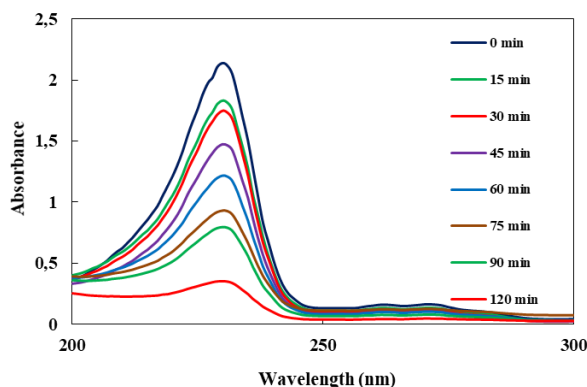


Figure 1. UV-vis spectra changes during different contact time at optimum conditions. (Experimental conditions: catalyst dosage = 0.5 g/L, pH = 4.6  $[NAP]_0 = 10$  mg/L, and Power= 650 W)

### References:

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