

## **Synthesis and characterization of UV irradiated silver/montmorillonite nanocomposite**

### **ABSTRACT**

We have successfully developed a simple method for preparing silver nanoparticles (Ag NPs) using UV irradiation of AgNO<sub>3</sub> in the interlamellar space of a montmorillonite (MMT) without any reducing agent or heat treatment. The properties of Ag/MMT nanocomposites were studied as a function of the UV irradiation period. UV irradiation disintegrated the Ag NPs into smaller size until a relatively stable size and size distribution were achieved. The results from UV–vis spectroscopy show that particles size of Ag NPs decrease with the increase of irradiation period. The crystalline structure of Ag NPs was determined by powder X-ray diffraction (PXRD).

**Keyword:** Silver nanoparticles; Nanocomposites; UV irradiation.