SYNTHESIS, CHARACTERIZATION AND COMPUTATION OF POTASSIUM DOPED CALCIUM HYDROXIDE NANOPARTICLES AND NANOTUBES

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ABSTRACT

Potassium doped calcium hydroxide [Ca(OH)₂:K] nanoparticles were synthesized by simple precipitation method. The powder x-ray diffraction pattern of the sample was studied, to investigate the crystalline nature of the sample. The shape and size of the nanoparticles were measured by scanning electron microscopic (SEM). The functional groups presented in the synthesized particles were recorded and analysed in the spectral region of 4000–400 cm⁻¹ by Fourier-transform infrared spectroscopy. Optical Properties of [Ca(OH)₂:K] were determined by ultraviolet visible spectrometer in the range of 190 – 800 nm. In addition that to study insight of the Ca(OH)₂ nano material, a nanotube was constructed and studied a quantum chemical calculations to predict the geometry, Dynamic and band gap properties.

KEYWORDS: Potassium Doped Calcium Hydroxide; Structural Properties & Optical Properties

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