Synthesis and characterization of CdO nanoparticles via one port calcination of Dmphen-CdI₂ complex

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Abstract

Cadmium oxide (CdO) nanoparticles were prepared starting from organometallic cis-[dmphen-CdI₂] complex (dmphen = 2,9-Dimethyl-1,10-phenanthroline) through one step calcination process at 800 °C, as seen in the scheme. The thermal behavior of the complex during calcination was recorded by TGA/DTA. The calcination steps reaction was monitored by FT-IR. The obtained product was analyzed by FT-IR, UV-visible, X-ray diffractometer (XRD), EDS, SEM and TEM; the average size of CdO nanoparticles was found to be 50 nm.

References