



Surfactant-assisted synthesis and characterizations of Cadmium complex for organic light emitting diode applications

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Abstract : In this paper we are discussing about the synthesise of pure and guest surfactant (TTAB) assisted cadmium [(2-(2-hydroxyphenyl) benzoxazole) (8-hydroxyquinoline)] Cd(HPB)q nanorods and their characterization. Powder X-ray diffraction analysis was used to calculate the particle size via Scherrer equation. Fourier- transform infrared (FTIR) spectroscopy was utilized to confirm the presence of all the functional groups of Cd(HPB)q. Scanning Electron Microscope (SEM) images indicated that lower temperature and a shorter reaction time would be suitable for the formation of nanorods. UV-vis-NIR spectroscopy was used to determine the band gap energies of Cd(HPB)q complexes. Photoluminescence (PL) spectra showed a prominent peak around 500 nm which indicates a strong PL emission in the green region.

Keywords : OLED, XRD, SEM, nanorods.

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