The Synthesis and Structure of Cadmium Complex of Dimorpholinodithioacetylacetonate and their use as Single Source Precursor for CdS Thin films or Nanorods

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Fig.4 X-ray diffraction patterns of CdS thin films grown on glass at (a) 450 °C (b) 500 °C. Solid lines representing the hexagonal phase. (JCPDS – 0772306).



Fig.5 SEM micrograph of CdS thin films grown on glass at 450 °C and 500 °C



Fig.6 Powder X-ray diffraction patterns of CdS nanorods grown at (a) 160 °C (b) 200 °C and (c) 240 °C. Solid lines representing the hexagonal phase.



Fig.7 TEM image and SAED pattern of CdS nanocrystals synthesized at (a) 160 °C, (b) 200 °C and (c) 240 °C (d) HRTEM image of CdS nanorods at 240 °C



Fig. 8 Absorption spectra (a-c) and photoluminescence spectra (d-f) (372 nm excitation) for CdS nanorods grown at 160 °C, 200 °C and 240 °C respectively