

Abstract: Synthesis of nano cadmium sulfide by microemulsion method and modified microemulsion with polyelectrolyte and investigate their structure

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The study is focused on the synthesis of cadmium sulfide nanoparticles (CdS), in a microemulsion template phase consisting of cyclohexane, water, cationic surfactant and cosurfactant and in the presence of Na-polycrylate (PAA) anionic polyelectrolyte and also poly di allyl di methyl ammonium chloride (PDADMAC) cationic polyelectrolyte. The microemulsion droplets and cationic and anionic polyelectrolyte-filled microemulsion were used for the formation CdS nanoparticles. CdS nanoparticles prepared using super sonic waves and sample was collected centrifuge device. Formation of CdS nano particles at room temperature was confirmed by X-ray diffraction (XRD) and Fourier transform infrared spectroscopy (FT-IR). Size and morphologie of the CdS samples were characterized using scanning and transmission electron microscopy (SEM and TEM) and The results showed hat the prepared CdS in the presence af PAA and PDADMAC has a different morphology sample which is synthesizedd in the absence of PAA and PDADMAC.

Keywords : Keywords: Microemulsion, Polyelectrolyte-modified microemulsion, Cadmium Solfide, Na-Polycrylate, poly di allyl di methyl ammonium chloride.

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