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Preparation of CoS₂ Nanoparticles in Aqueous Micellar Media of Anionic Surfactants : AOT and SDS

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Abstract — The micelles of the anionic surfactants, sodium bis(ethyl-2-hexyl)sulphosuccinate (AOT) and sodium dodecylsulphate (SDS) have been used as templates for the preparation of CoS₂ nanoparticles. The S-S bond in CoS₂ was confirmed by the presence of the 480 cm⁻¹ sharp peak in the infra-red spectrum. The as-prepared material was characterized by UV-visible spectra and transmission electron microscopy (TEM). The prominent circular pattern in the selected area electron diffraction (SAED) study confirmed the crystalline structure of the materials prepared in either of the templates.