Synthesis and Characterization of SnS nanoparticales in the quantum dot solar cells

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Tin sulfide (SnS) is a promising Earth-abundant material for photovoltaic applications. SnS nanoparticles were synthesized using cheap, less toxic with SnCl2.2H2O as the tin (II) precursor. SnS nanoparticles were successfully synthesized and specially reacted in the short time by wet chemical method. The prepared nanoparticles were characterized by powder X-ray diffraction (XRD), transmission electron microscopy (TEM) and dielectric studies. TEM result indicate that the prepared product in SnS nanopshere and has a grain size of 5 nm in diameter. The optical properties were obtained from UV-Vis absorption spectrum and the optical bandgap was calculated.