

## Visible light driven photocatalytic activity of copper sulfide nanoparticles

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CuS nanoparticles are unique among copper based nanocomposites owing to its numerous applications such as sensing, imaging, photothermal ablation, supercapacitors, solar cell, drug delivery etc. In this report, simple thermal assisted synthesis of CuS nanoparticles was attempted. The material was analyzed for its structural property from XRD analysis and optimized to yield single phase of CuS semiconductor. Optical property of as-synthesized CuS semiconductor was studied using UV-Vis spectroscopy and band gap was calculated. The photocatalytic activity of the CuS was studied using crystal violet as model pollutant.

Keywords: Semiconductor, photocatalysis, CuS.