Deposition of thin polycrystalline films of cuprous thiocyanate on conducting glass and photoelectrochemical dye-sensitization

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Abstract

A method is given for electrochemical deposition of thin polycrystalline films of cuprous thiocyanate (p-type semiconductor, band gap = 3.6 eV) on conducting indium–tin oxide glass. Dye-sensitization of the surface with methyl violet and construction of a photoelectrochemical cell are described. The investigation demonstrates the usefulness of unconventional high band gap semiconductors in studying dye-sensitization.

Keywords: Copper; Deposition process; Solar cells