

The effect of methyl viologen ion on photocurrent and stability of Cu_2O photocathodes in I^-/I_3^- redox electrolyte

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Abstract

The photocurrent and stability of a photoelectrochemical cell with a Cu_2O cathode in I^-/I_3^- redox electrolyte are enhanced by trace quantities of methyl viologen added to the electrolyte. It is suggested that methyl viologen ions adsorbed on the Cu_2O surface act as a relay to transfer electrons to the I_3^- ion.

Keywords: Methyl viologen ion; Photocurrent; Stability; Cu_2O Photocathodes; Redox electrolyte
