RELATIONSHIP BETWEEN THE ELECTROCHEMICAL BEHAVIOR OF MULTIWALLED CARBON NANOTUBES (MWNTS) LOADED WITH CUO AND THE PHOTOCATALYTIC ACTIVITY OF EOSIN Y-MWNTS-CUO SYSTEM

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TÓM TẮT:

The photocatalytic system containing Eosin Y, multiwalled carbon nanotubes (MWNTs) and CuO (Eosin Y-MWNTs-CuO) was fabricated; meanwhile its photocatalytic activity for hydrogen evolution from triethanolamine (TEOA) aqueous solution was evaluated. Under visible light irradiation, the amount of hydrogen (H2) evolution increased greatly due to introduction of CuO in the photocatalytic system. Moreover, the electrochemical behavior of MWNTs loaded with CuO was explored using cyclic voltammetry (CV) and electrochemical impedance spectroscopy (EIS). The results clearly indicate that there is a strong relationship between the electrochemical behavior of MWNTs-CuO and the photocatalytic activity of Eosin Y-MWNTs-CuO, and the high photocatalytic activity of Eosin Y-MWNTs-CuO may mainly originate from the efficient electron-transfer in the system.