

Electroless copper deposition on epoxy glass substrate for electrocatalysis of formaldehyde

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Abstract: In this paper, we investigated the characteristics of a structured copper (Cu) μ m deposited on the surface of an insulating epoxy glass (EG) substrate via a facile electroless plating process. The μ m produced by this method was found to be of high purity and has a homogeneous microstructure consisting of an assembly of numerous aggregates that vary in size from 1 to 5 μ m depending on the electroless deposition time. The electrocatalytic activity of the prepared electrode was investigated for the electrooxidation of formaldehyde using cyclic voltammetry in 0.1 M NaOH solution. Results show that formaldehyde oxidation takes place at a low potential of -0.34 V with large anodic current densities.

Keywords : copper, electroless plating, Formaldehyde, Oxidation, Thin films