

Platinum-Coated Nanoporous Gold Nanorod Array: Synthesis and Characterization

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The utilization of vertically aligned nanoporous gold nanorod arrays as templates for generating ultrathin Pt-coating on the surface of such structures displaying electrocatalytically active large surface area is described. Epitaxial Pt-coating down to 1~2 monolayer level can be prepared by the spontaneous replacement of an electrochemically deposited copper layer by the Pt metal. Electrochemical characterization of nanoporous nanorods is carried out for catalytic applications.