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Preparation and characterization of ordered nanostructured cobalt films via lyotropic liquid crystal templated electrodeposition method

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Abstract

A simple, inexpensive and less time consuming electrochemical methods were carried out to prepare ordered mesoporous cobalt films. Ordered mesoporous cobalt films were successfully synthesized by templated electrodeposition of hexagonal H₁-e Co ion. The electrodeposited mesopores films were characterized by scanning electron microscopy (SEM), transmission electron microscopy (TEM), low angle X-ray diffraction (XRD) and voltammetric methods. The applicability of thin films as high - performance super capacitors electrode materials is demonstrated electrochemically using cyclic voltammetry (CV) technique.

Author Keywords

Electrodeposition; Hexagonal phase; Mesoporous cobalt films; Pluronic lyotropic liquid crystal

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