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Development of organic-inorganic composite electrode for supercapacitor

수퍼커패시터용 유-무기 복합전극의 개발

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Electrochemical capacitors are becoming attractive energy storage systems particularly for applications involving high power requirements such as hybrid systems consisting of batteries and electrochemical capacitors for electric vehicle propulsion. Both of amorphous cobalt oxide and manganese dioxide were prepared by sol-gel process reported in our previous work. Nanostructured supramolecular oligomer of 1,5-diaminoanthraquinone(DAAQ) coated metal oxides were successfully prepared by electrochemical oxidation from an acidic non-aqueous medium. We established process parameters of the technique for the formation of nano-structured materials. Furthermore, improved the capacitive properties of the nano structured metal oxide electrodes using controlled solution chemistry. CoO_2 and MnO_2-based composite electrode showed relatively good electrochemical behaviors in acidic electrolyte system with respect to specific capacity and scan rate dependency.

감사의 글

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