Facile synthesis of Co-Ni-Mn oxide for high performance supercapacitor

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Transition metal oxides possess unique properties for energy storage devices. In this study, Co-Ni-Mn ternary metal oxide (Co-Ni-Mn-O) was synthesized in a facile way. Co-Ni alloy was first prepared by chemical reduction and then oxidized by potassium permanganate. MnO₂ was thus covered on the Co-Ni oxides. The Co-Ni-Mn-O has high electrochemical activity and can be used for supercapacitor electrode. The Co-Ni-Mn-O demonstrates high specific capacitance as well as excellent rate capability and stability, which is promising for energy storage applications.

Keywords: MnO₂; Supercapacitor; Transition metal oxides; Ternary metal oxide; Nanocomposite

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