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NiCo-layered double hydroxides: Design and electrochemical studies

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Abstract

NiCo-layered double hydroxides (NCLDH) prepared by adopting a simple one step sol–gel method with the aid of a gelation agent propylene oxide. The prepared compound is evaluated for its crystalline structure, morphology and surface area and electrochemical performance as supercapacitor electrode material. The specific capacitance of as-synthesized NCLDH is 950F/g, when the electrodes cycled in 6 M potassium hydroxide at 5 mV/s. Remarkable specific capacitance can be held responsible for porosity with considerable surface area. This material can be a competitive one among high performance supercapacitor electrode material with significant charge storage capacity.

Keywords:

Nickel cobalt double hydroxides, Layered double hydroxides, Supercapacitors, Electrodes

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