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## Electrochemical properties of Ni-Zn bi-hydroxides synthesized by hydrothermal method steel substrate

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Electrochemical supercapacitors have attracted much interest due to their high power density and longer cycle life. In order to obtain high performance supercapacitors, many researches are focused on the binary system of transition metal hydroxides and oxides. Therefore, we have synthesized 3D-porous nano/micro-hierarchical Ni-Zn hydroxides using simple and low cost free template hydrothermal process with an important specific surface area, pore volume and size around 100 m<sup>2</sup>/g, 0.31 cm<sup>3</sup>/g and 12 nm, respectively. The electrochemical properties of these Ni-Zn based micro-nano-bi-hydroxides have been investigated using Cyclic Voltammetry (CV), galvanostatic Charge/Discharge (CD) and Impedance Spectroscopy (EIS). The electrochemical investigation provides that the binary system transition metal (Ni-Zn) exhibit high electrochemical performance of supercapacitor due to their good electric conductivity, low electronegativity and high electrochemical conductivity.

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