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High energy density aqueous asymmetric supercapacitors based on MnO₂@C branch dendrite nanoarchitectures

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Abstract

The flourishing development of the asymmetric supercapacitor (ASC) device has improved the energy density of supercapacitor in some extent. However, the energy density of the present ASC device is too low to meet the requirement of daily life. The two principal factors determining the energy density are the specific capacitance and the voltage window of the ASC device, which are closely related with the kinds of the electrode materials and the electrolytes. In this work, a new MnO₂@C branch-dendrite (MnO₂@C-BD) nanoarchitectures as a whole have been triumphantly in-situ prepared and acted as the cathode materials of the ASC device. Moreover, the

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