Exceptional Pseudocapacitive Properties from Hierarchical Ultrafine NiO Nanowires Grown on Mesoporous NiO Nanosheets

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Part I: Calculations

The specific capacitance (C) of the electrode was calculated from the discharge curves using the following formula:\(^1\):

\[
C = \frac{I \times \Delta t}{m \times \Delta V}
\]

where \( I \) (A), \( \Delta t \) (s), \( m \) (g), and \( \Delta V \) (V) are the discharge current, discharge time consumed in the potential range of \( \Delta V \), mass of the active materials, and the potential windows, respectively.

The energy density (E) and power density (P) are calculated from the discharge curves using the following formula:

\[
E = \text{Error!} \times C \times \Delta V^2
\]

\[
P = \frac{E}{\Delta t}
\]

Part II: Supplementary Figures

**Fig. S1** Nitrogen adsorption-desorption isotherms of the NiO nanosheets/nanowires and mesoporous NiO nanosheets, respectively. Insets display their corresponding BJH pore size distribution plots, respectively.

**Fig. S2** EDX pattern taken from the NiO nanosheets/nanowires.
Fig. S3 (a) CV curves of the mesoporous NiO nanosheets with different scan rates. (b) Galvanostatic charge-discharge curves of the mesoporous NiO nanosheets at different current densities.

Fig. S4 (a) CV curves comparison of the Ni substrate at different scan rates and NiO nanosheets/nanowires at a scan rate of 50 mV s$^{-1}$. (b) Enlarged CV curves of Ni substrate in (a) at different scan rates. (c) Galvanostatic charge-discharge (CD) curves of the Ni foam measured at 5 and 10 A g$^{-1}$, respectively.