

Electronic supplementary information

In situ fabrication of Ni-Co (oxy)hydroxide oxide nanowire-supported nanoflake
arrays and their application in supercapacitors

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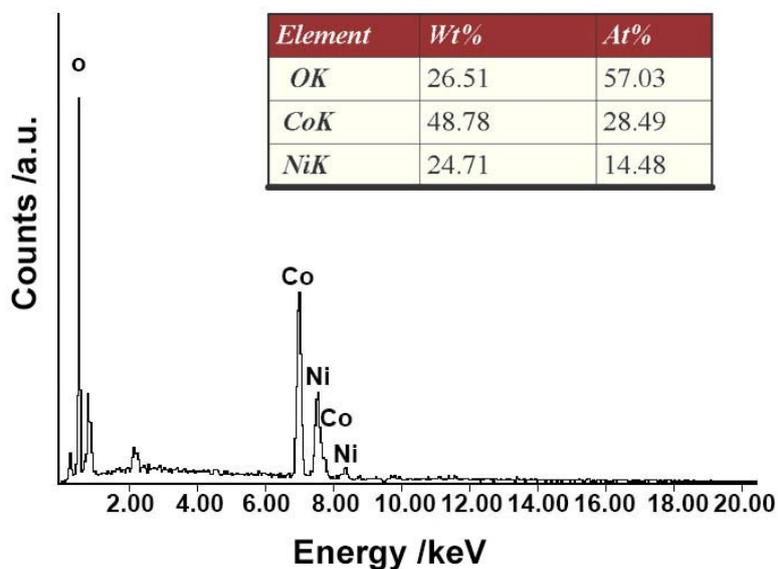


Fig. S1 EDX result of the obtained Ni-Co carbonate hydroxide nanowire arrays.

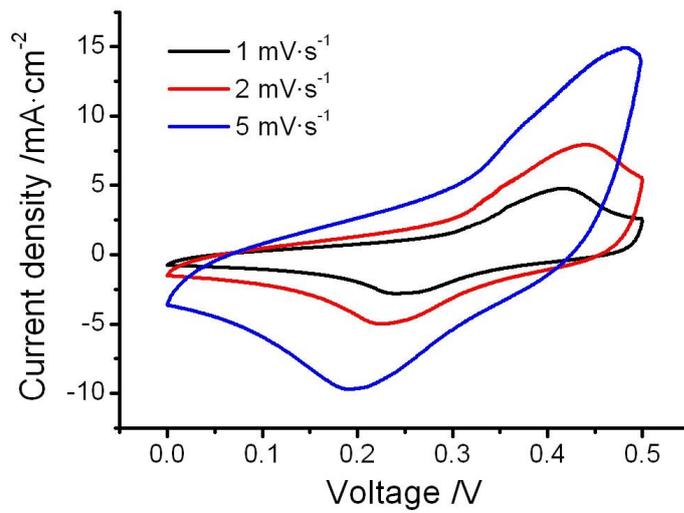


Fig. S2 CV curves of the sample after soaking for 36 h in 2 M KOH solution.

Because of the improved activity of oxygen evolution reaction (OER) in concentrated KOH solution, the anodic peak of Ni-Co (oxy)hydroxides overlapped with oxygen evolution current, resulted in the sharply increasing current density at 0.35V. However, at a slow scan rate of 1 mV·s⁻¹, anodic peak located at about 0.4 V was found.

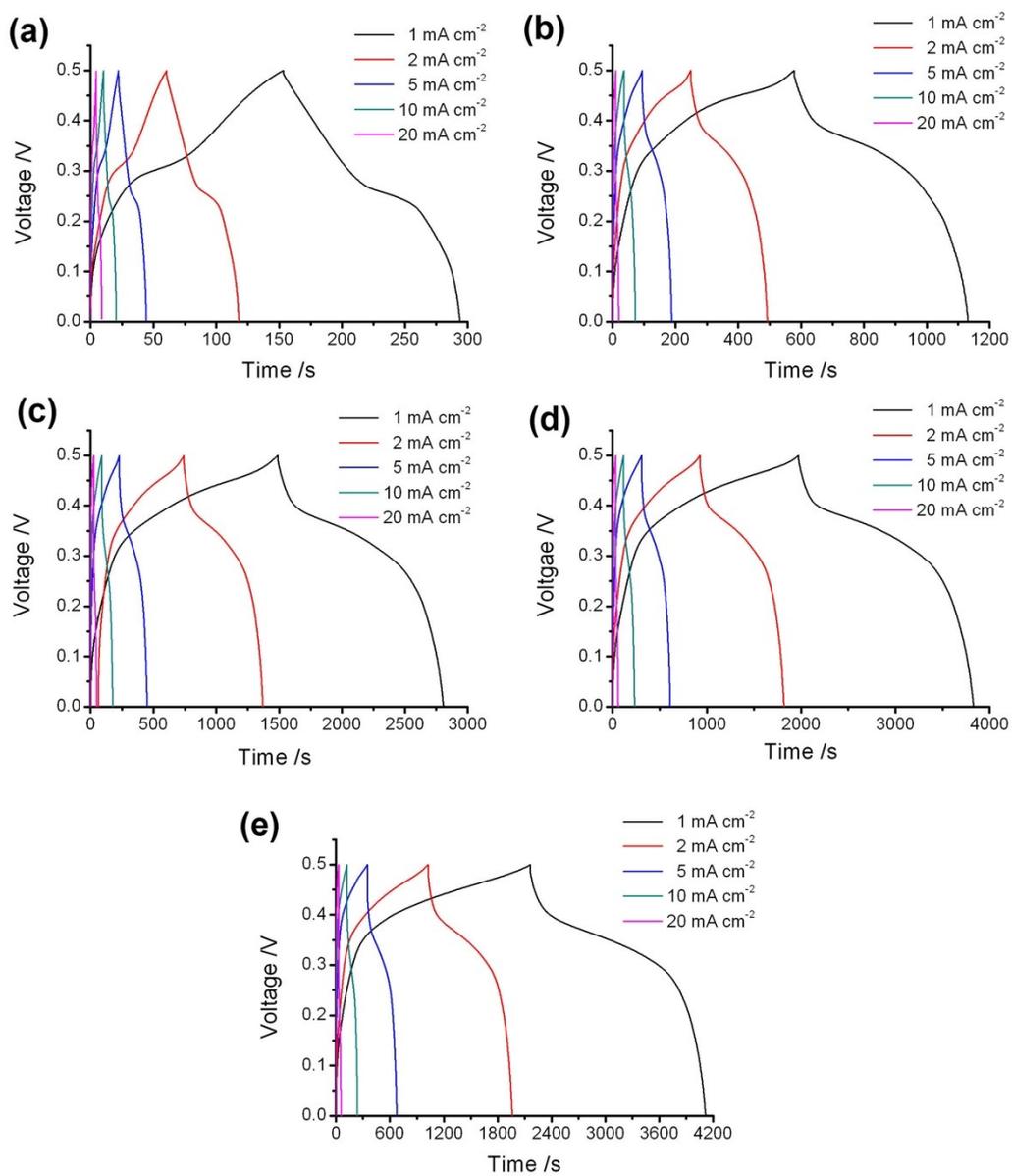


Fig. S3 Charge/discharge curves of the pristine and soaked electrode at different current densities. (a) pristine electrode; (b) 12 h-soaked electrode; (c) 24 h-soaked electrode; (d) 36 h-soaked electrode; (e) 48 h-soaked electrode

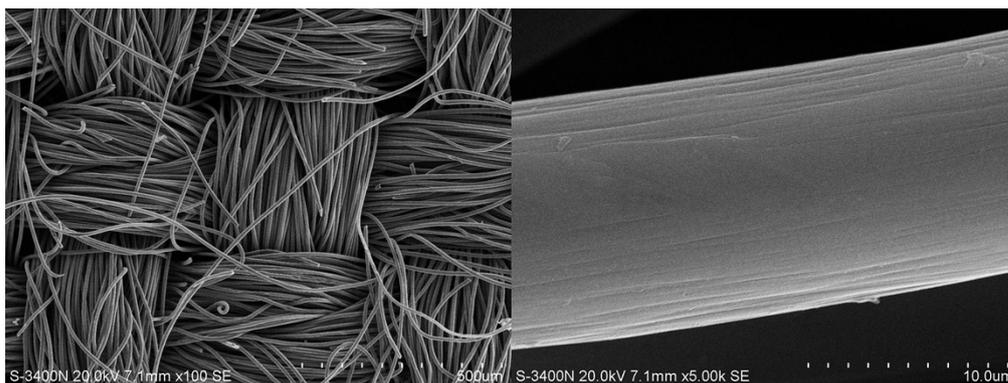


Fig. S4 SEM images of the naked carbon cloth.

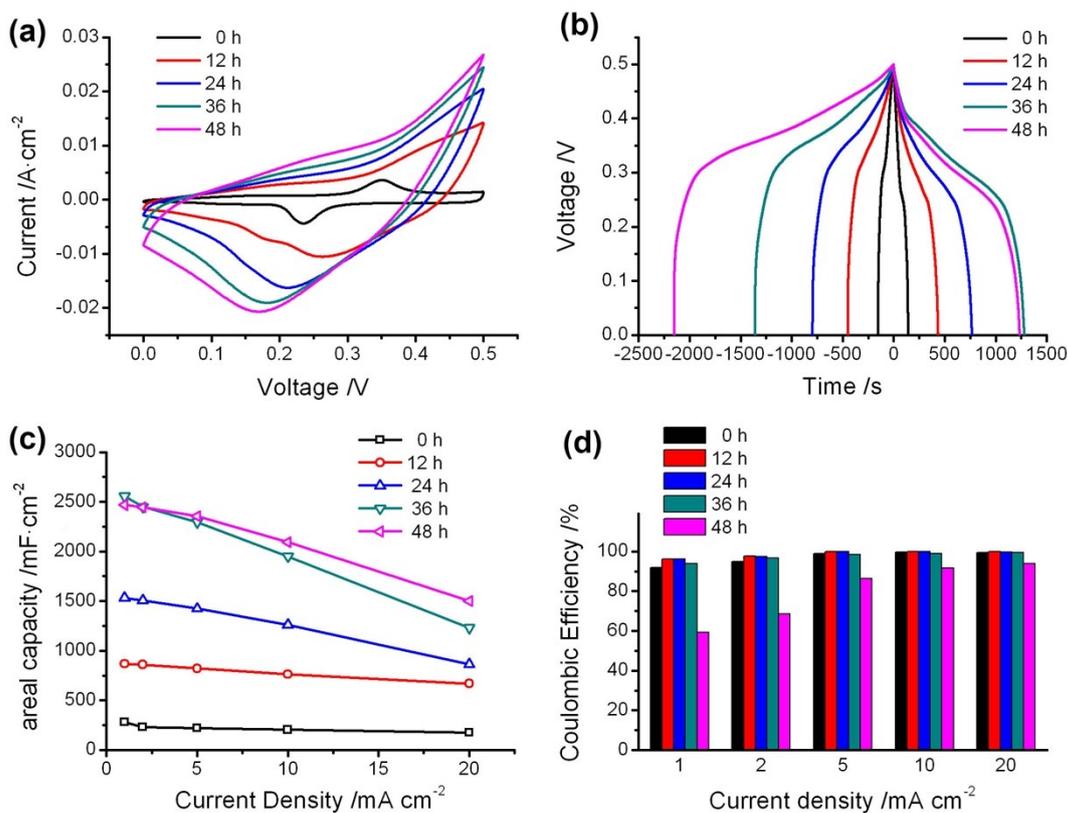


Fig. S5 Evolution of electrochemical behavior for Ni-Co carbonate hydroxide nanowires electrode with low mass loading ($3 \text{ mg} \cdot \text{cm}^{-2}$) before and after soaking in KOH solution for various times. (a) CV curves at $10 \text{ mV} \cdot \text{s}^{-1}$; (b) Charge/discharge curves at $1 \text{ mA} \cdot \text{cm}^{-2}$; (c) areal capacitance at different current densities. (d)

Coulombic efficiency at different current densities.

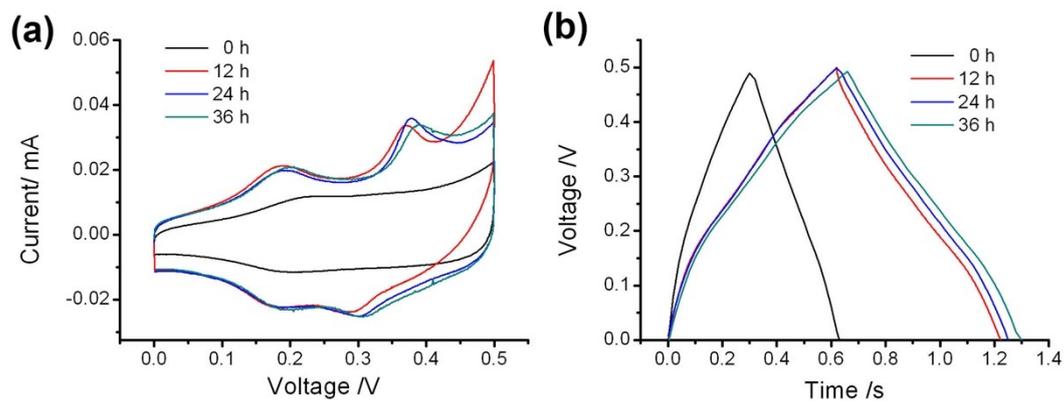


Fig. S6 (a) CV curves at $10 \text{ mV}\cdot\text{s}^{-1}$ and (b) Charge/discharge curves at $1 \text{ mA}\cdot\text{cm}^{-2}$ of naked CC electrode before and after soaked in KOH solution for various time.