Supporting Information

Construction of unique Co₃O₄@CoMoO₄ Core/Shell Nanowire Arrays on Ni Foam by action exchange method for Electrochemical Energy Storage

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Figure S1 photographs of nickel foam substrate, Co$_3$O$_4$ precursor on nickel foam, Co$_3$O$_4$@CoMo$_4$ precursor on nickel foam, Co$_3$O$_4$ NWAs on nickel foam and Co$_3$O$_4$@CoMo$_4$ NWAs on nickel foam.
The specific capacitance ($C_s$) and the power density ($P$) and energy density ($E$) were calculated according to the following equations:

**Equation 1:**

$$C_s = \frac{It}{mV}$$

**Equation 2:**

$$E = \frac{1}{2} C_s V^2$$

**Equation 3:**

$$P = \frac{E}{t}$$

Where $I$ was the constant discharge current (A), $t$ was discharge time (s), $V$ was the potential window (V), $m$ was the total mass (g) of the electrode material on Ni foam.
Figure S2  (a) Typical XRD patterns of the Co$_3$O$_4$ NWAs (b) XRD pattern of the Co$_3$O$_4$@CoMoO$_4$ (10 h) core/shell composite scratched from Ni foam.
Figure S3 Long-term cycling stability of the Co$_3$O$_4$ and Co$_3$O$_4$@CoMoO$_4$ hybrid electrodes. (d) Impedance Nyquist plots of the Co$_3$O$_4$ electrode and the Co$_3$O$_4$@CoMoO$_4$ hybrid electrode.
Figure S4 Morphologies of the Co$_3$O$_4$@CoMoO$_4$ nanostructure at various reaction stages by setting the reaction time to (a) 2 h, (b) 5 h, (c) 15 h, (d) 20 h.