Supporting Information

Honeycomb-like $NiMoO_4$ Ultrathin Nanosheet Arrays for High-performance Electrochemical Energy Storage

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Calculations.

The specific capacitance is calculated from the discharge curve using the following formula:

$$C = \frac{1}{mv\,\Delta V}\int I(V)dV$$

where I is the current density, v is the scan rate, Δ V is the potential window and m is the mass of the $NiMoO_4$ NSs.

The specific capacitance is calculated from the discharge curve using the following formula:

$$C = \frac{Idt}{mdV}$$

where C is the specific capacitance (F g^{-1}), I is the applied current (A), t is the discharge time (s), m is the mass of the $NiMoO_4$ NSs (g), and dV is the applied voltage (V).

The power density and energy density were calculated using the following equations:

$$E = \frac{1}{2}CV^2$$

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

where C is the specific capacitance of the $NiMoO_4$ NS-SSCs (F g^{-1}) and t is the discharge time (s).

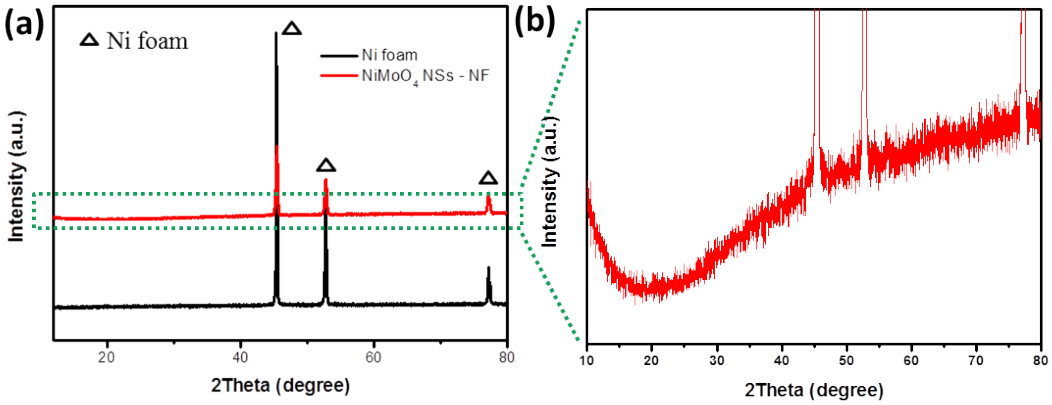

Figure S1. XRD patterns of the Ni foam and $NiMoO_4$ NSs.

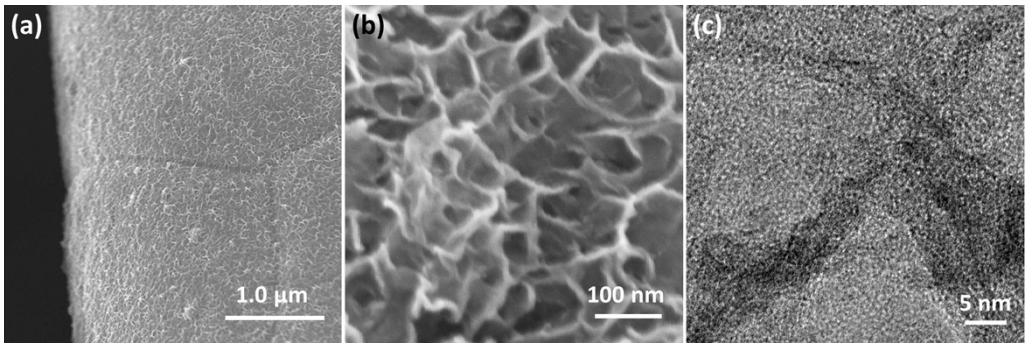

Figure S2. (a-b)SEM images of Ni-Mo precursor nanosheets arrays. (c) HRTEM image of $NiMoO_4$ NSs.

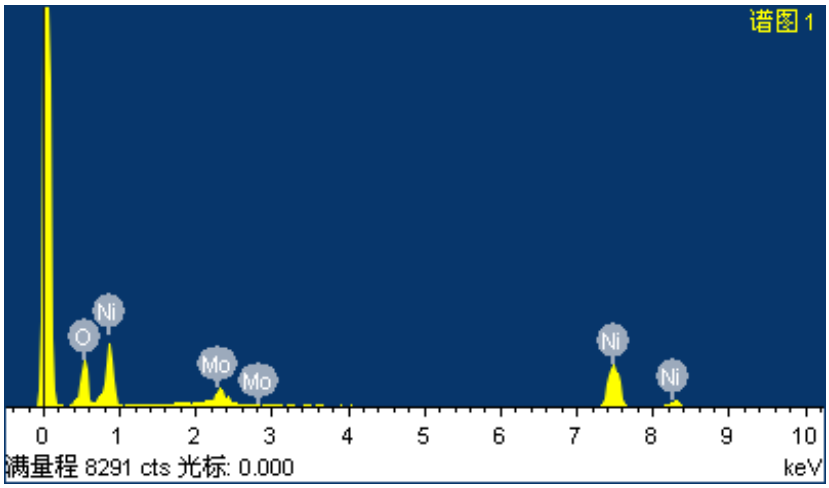

Figure S3. EDX patterns of $NiMoO_4$ NSs on the nickel foam substrate.

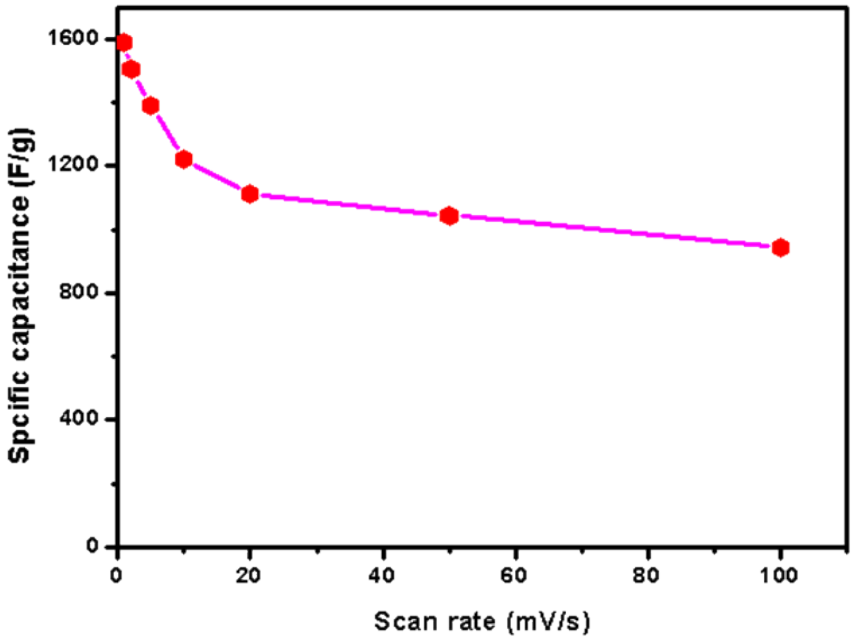

Figure S4. Specific capacitance of the $NiMoO_4$ NS electrode as a function of scan rate.

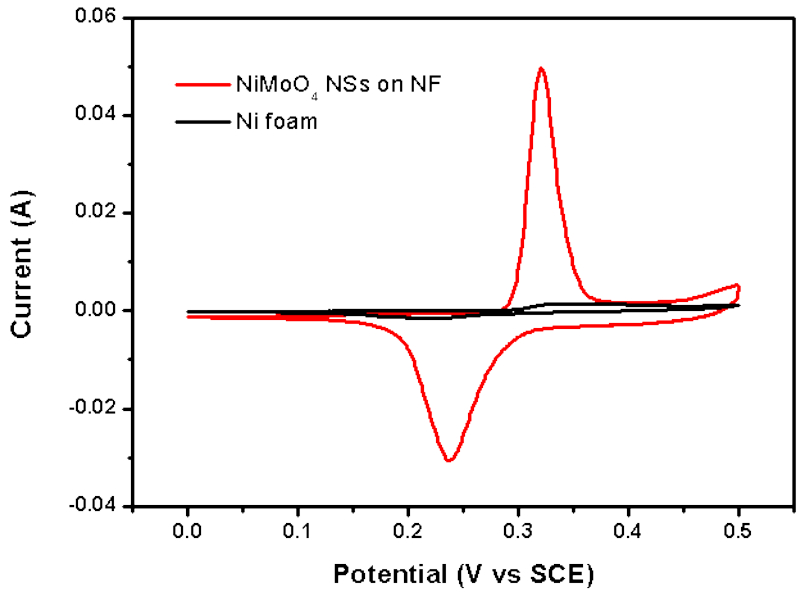

Figure S5. CV curves of the Ni foam and $NiMoO_4$ NS on Ni foam electrodes at a scan rate of 5 mV s^{-1}.

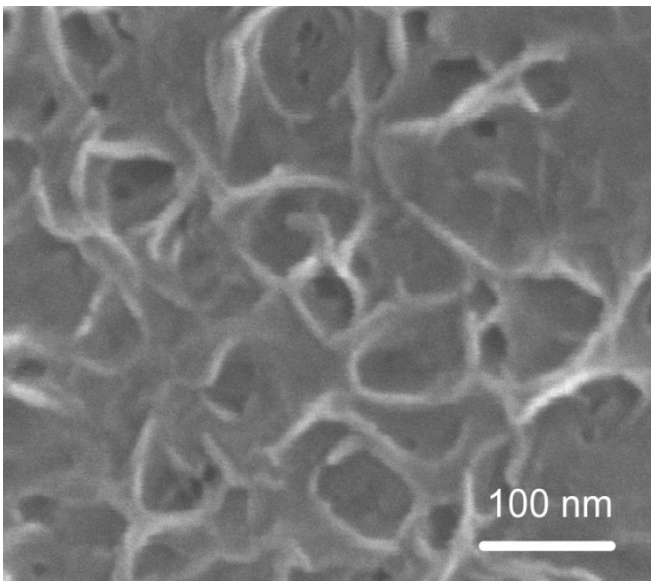

Figure S6. SEM images of the $NiMoO_4$ NS electrode after 9,000 cycles.

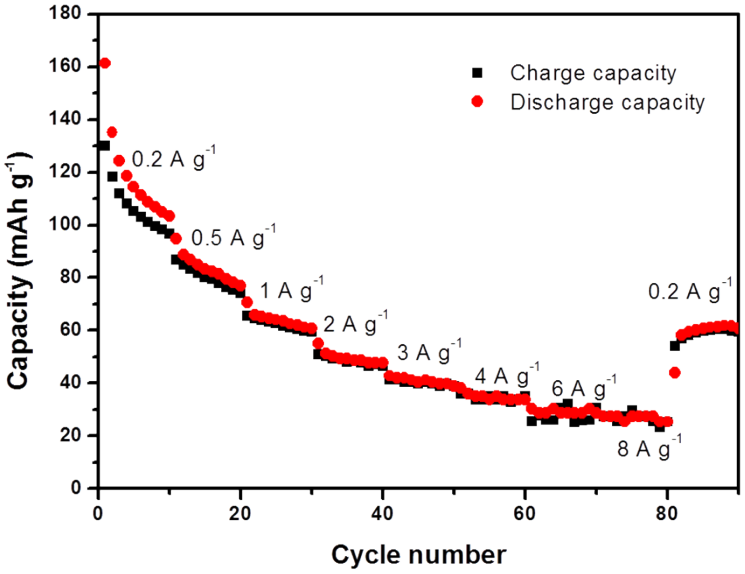

Figure S7. Specific capacity of the bare Ni foam electrode at various current densities.

Table S1. Comparison of the maximum *Cs*, rate capability and cycle performance based on certain reported $NiMoO_4$-based pseudocapacitive active materials.

Electrodes based on materials	***C*s** (F g^{-1})	**rate capability**	**cycle performance**	**Ref.**
$NiMoO_4$ nanospheres	974.4 (1 A g^{-1})	84.2% up to 10 A g^{-1}	74.5% after 2000 cycles	1
$NiMoO_4$ nanorods	944.8 (1 A g^{-1})	79.3% up to 10 A g^{-1}	52.7% after 2000 cycles	1
Co_3O_4-$NiMoO_4$ nanowires	1230 (10 mA cm^{-2})	78.8% up to 80 mA cm^{-2}	77% after 3000 cycles	2
$NiMoO_4$ nanoclusters	680 (1 A g^{-1})	57.8% up to 10 A g^{-1}	60% after 1000 cycles	3
$NiMoO_4$ nanoparticles	1517 (1.2 A g^{-1})	46.1% up to 12 A g^{-1}		4
$NiMoO_4$ nanosheets	1654.9 (2 A g^{-1})	72.5% up to 20 A g^{-1}	65% after 2000 cycles	5
$CoMoO_4$-$NiMoO_4$	1039 (5 mA cm^{-2})	72.3% up to 100 mA cm^{-2}		6
$NiMoO_4$ nanowires	1587 (5 mA cm^{-2})	59.9% up to 30 mA cm^{-2}	76.9% after 4000 cycles	7
$NiMoO_4$ nanosheets	1221.2 (1 A g^{-1})	79% up to 20 A g^{-1}	89.2% after 10000 cycles	8
$NiMoO_4$ nanorods	1091.1 (1 A g^{-1})	77.7% up to 20 A g^{-1}	79% after 10000 cycles	8
$NiMoO_4$ nanosheets	1694 (1A g^{-1})	72% up to 50 A g^{-1}	92.7 after 9000 cycles	This work

References

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