Supporting Information for

NiMoO₄@Co(OH)₂ core/shell structure nanowire arrays supported on Ni foam for high-performance supercapacitors

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Supplementary Figures



Figure S1 Typical SEM images (a, b, c, d) of the NiMoO4 nanowire arrays grown on Ni foam.



Figure S2 The cross section SEM image of the NiMoO₄@Co(OH)₂ NWAs on Ni foam.

Figure S3 XRD patterns of the NiMoO₄ nanowire arrays.

Figure S4 EDS patterns of NiMoO₄@Co(OH)₂ NWAs electrode.



Figure S5 (a) The CV curves of the NiMoO₄ NWAs electrode at different scan rates. (b) Comparison of the NiMoO₄@Co(OH)₂ and NiMoO₄ NWAs electrode at the same scan rate of 20 mV s⁻¹; (c) charging/discharging voltage profiles of the NiMoO₄ NWAs electrode at different current densities ranging from 5 to 50 mA cm⁻²; (d) Comparison of the NiMoO₄@Co(OH)₂ and NiMoO₄ NWAs electrodes at the same current density of 10 mA cm⁻².

For comparison, the CV curves of NiMoO₄ and NiMoO₄@Co(OH)₂ NWAs at the scan rate of 20 mV s⁻¹ are shown in Figure S5b, the area region of NiMoO₄@Co(OH)₂ NWAs are obviously bigger than NiMoO₄ NWAs. It is clearly shown in Figure S5d that charging/discharging time of the NiMoO₄@Co(OH)₂ NWAs become much longer than the NiMoO₄ NWAs at 10 mA cm⁻² and the former arrays do not display fast potential drop in the discharge curve. The discharge capacitance of the NiMoO₄@Co(OH)₂ NWAs at 10 mA cm⁻² was 1.820 F cm⁻², which is 1.76 times than that of bare NiMoO₄ NWAs (1.033 F cm⁻²), demonstrating the advantage of capacitance improvement.



Figure S6 Coulombic efficiency of the NiMoO₄@Co(OH)₂ NWAs electrode.



Figure S7 SEM image of the NiMoO₄@Co(OH)₂ NWAs after 5000 cycles.

Table S1 The comparative electrochemical performance of different kinds of the hybrid $NiMoO_4$ materials.

Electrode Materials	Capacitance	Current Density	Reference
NiMoO ₄ nanorods	944.8 F g ⁻¹	1 A g ⁻¹	16
NiMoO ₄ nanospheres	974.4 F g ⁻¹	1 A g ⁻¹	16
CoMoO ₄ -NiMoO ₄ nanobundles	1039 F g ⁻¹	2.5 mA cm ⁻²	17
Nano β -NiMoO ₄ -CoMoO ₄ ·xH ₂ O composites	1472 F g ⁻¹	5 mA cm ⁻²	18
NiMoO ₄ ·xH ₂ O nanorods	1136 F g ⁻¹	5 mA cm ⁻²	19
Nano α-NiMoO4 nanoparticles	1517 F g ⁻¹	1.2 A g ⁻¹	20
NiMoO4 hierarchical unltrathin mesoporous	1200.5 F g ⁻¹	20 A g ⁻¹	21
nanosheets			
$NiMoO_4 \cdot H_2O$ nanoclusters	680 F g ⁻¹	1 A g ⁻¹	22
GO 1D-NiMoO4 nH2O nanorods	367 F g ⁻¹	5 A g ⁻¹	23
1D-NiMoO ₄ · nH ₂ O nanorods	161 F g ⁻¹	5 A g ⁻¹	23
NiMoO ₄ @Co(OH) ₂ core/shell nanowire arrays	2.335 F cm ⁻²	5 mA cm ⁻²	This work
	(2122.7 F g ⁻¹)	(4.5 A g ⁻¹)	