

Supporting Information for

**Ultralayered Core-shell Metal Oxide Nanosheet Arrays for  
Supercapacitors With Long-term Electrochemical Stability**

Dandan Han <sup>a, b, \*</sup>, Ye Shen <sup>a</sup>, Yifan Pan <sup>a</sup>, Zhenyu Cheng <sup>a</sup>, Yen Wei <sup>b\*</sup>, Guangjian Zeng <sup>c</sup>, Liucheng Mao <sup>c</sup>

*<sup>a</sup> College of Chemistry and Pharmaceutical Engineering, Jilin Institute of Chemical Technology, Jilin 132022, China*

*<sup>b</sup> Department of Chemistry and the Tsinghua Center for Frontier Polymer Research, Tsinghua University, Beijing, 100084, China*

*<sup>c</sup> Department of Chemistry, Nanchang University, 999 Xuefu Avenue, Nanchang 330031, China*

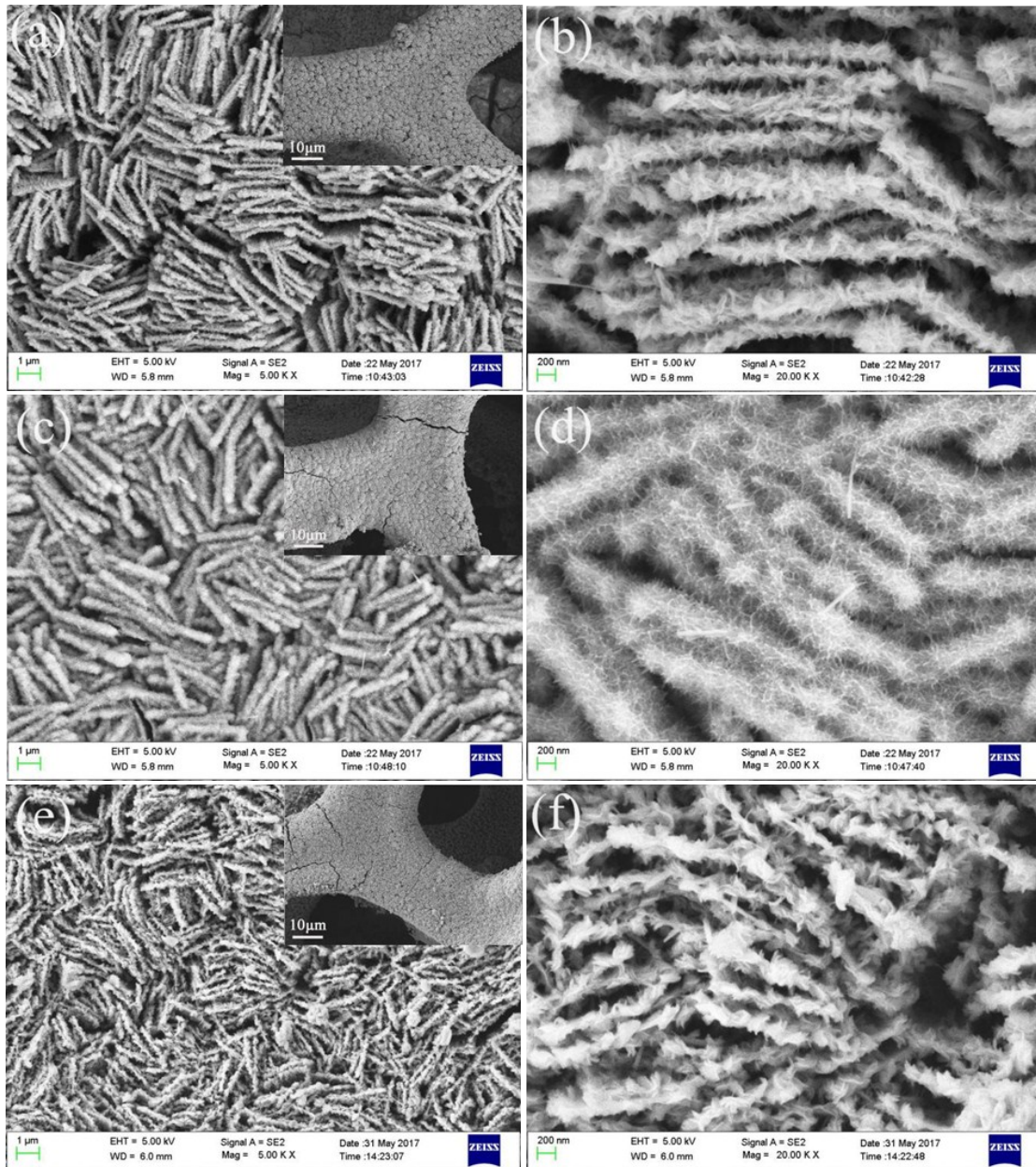


Figure S1.  $\text{Co}_3\text{O}_4$  nanowire@NiO nanosheet core-shell arrays with different electrodeposition time. (a, b) 15min. (c, d) 30min. (e, f) 105min.

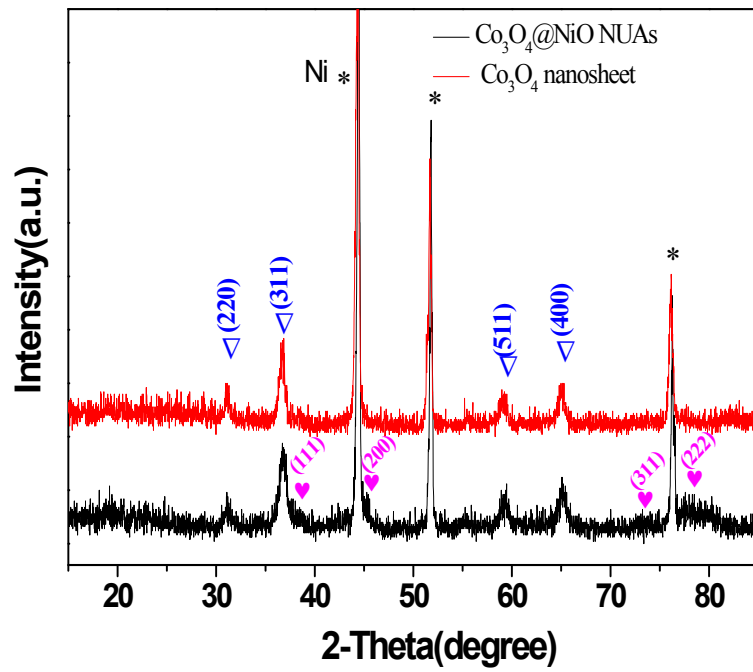


Figure S2. XRD patterns for  $\text{Co}_3\text{O}_4@NiO$  UNAs and  $\text{Co}_3\text{O}_4$  nanosheet

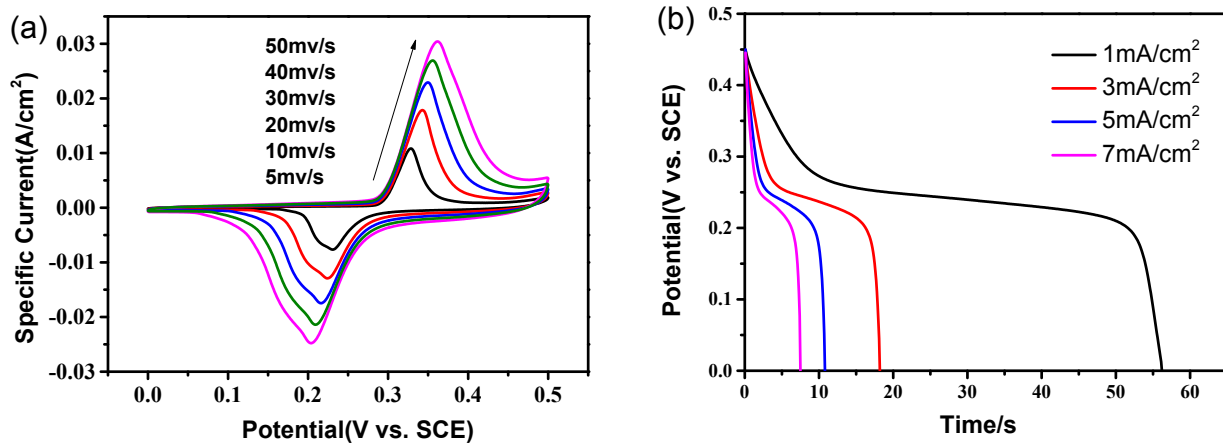


Figure S3. (a) CV curves with different scan rates and (b) galvanostatic charge-discharge curves at various of current density for Ni foam.

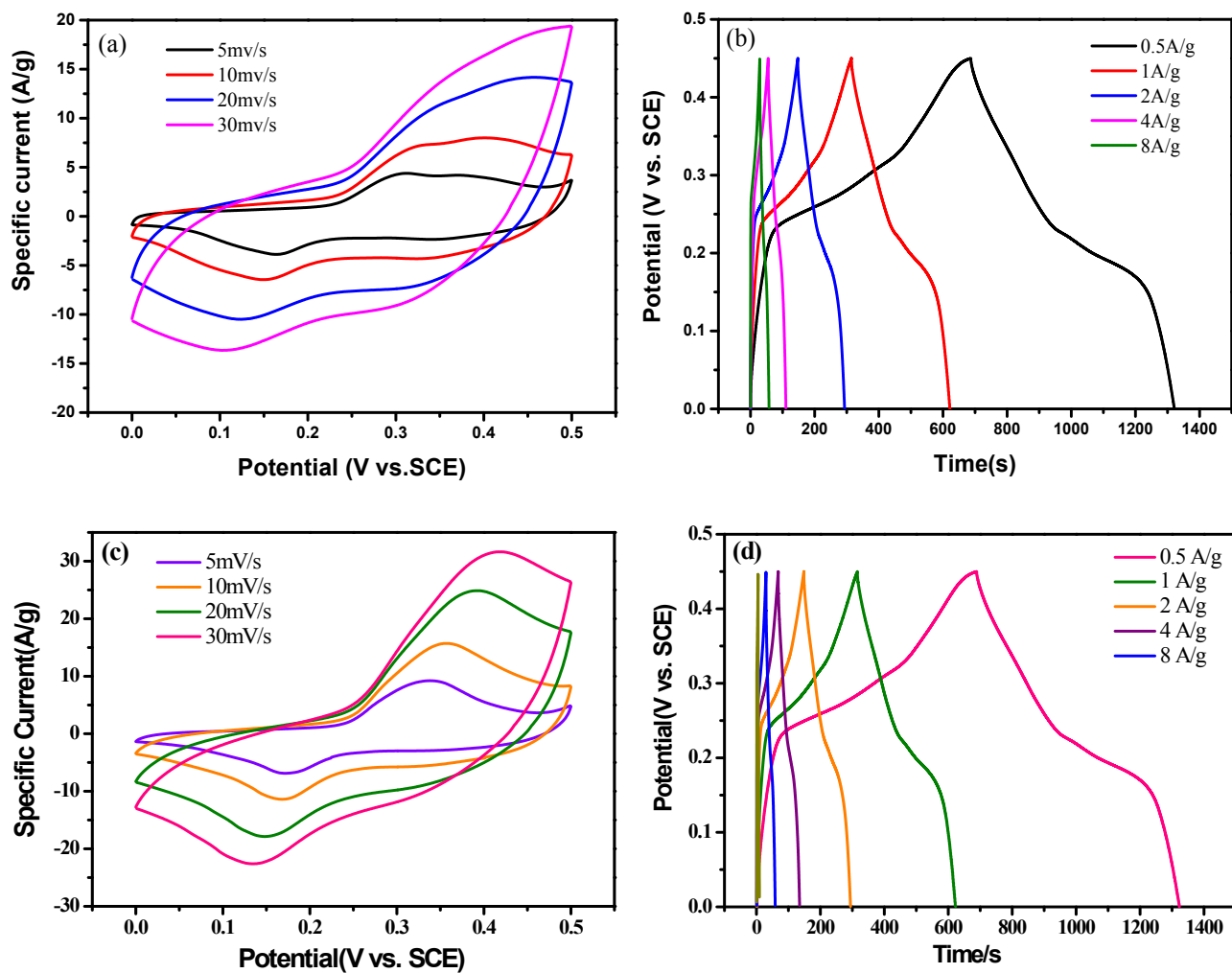


Figure S4. (a, c) CV curves at different scan rates for  $\text{Co}_3\text{O}_4@\text{NiO}$  UNAs and  $\text{Co}_3\text{O}_4$  nanosheet, and (b, d) galvanostatic charge-discharge curves at various of current density for  $\text{Co}_3\text{O}_4@\text{NiO}$  UNAs and  $\text{Co}_3\text{O}_4$  nanosheet, respectively.

Table S5. Compared cycle lifetime for different core-shell structured composites.

Number	Electrode structure	Current density	Cycling stability	Reference
1	Co <sub>3</sub> O <sub>4</sub> @NiO//AC ultralayered core/shell nanosheet arrays	30 mA·cm <sup>-2</sup>	6000 cycles (102%)	This work
2	CoMoO <sub>4</sub> @MnO <sub>2</sub> core-shell nanosheet	20 mA·cm <sup>-2</sup>	3000 cycles (93%)	[3]
3	NiCo <sub>2</sub> O <sub>4</sub> @Co(OH) <sub>2</sub> //AC nanotube	1 A·g <sup>-1</sup>	5000 cycles (70.10%)	[12]
4	CoO@MnO <sub>2</sub> //AC nanosheet@nanosheet arrays	20 mA·cm <sup>-2</sup>	10000 cycles (95.40%)	[13]
5	Co <sub>3</sub> O <sub>4</sub> @NiO hierarchical nanowire arrays	1 A·g <sup>-1</sup>	2000 cycles (98.8%)	[18]
6	NiCo <sub>2</sub> S <sub>4</sub> @Ni(OH) <sub>2</sub> //AC Core-Shell Nanosheet Arrays	20 mA·cm <sup>-2</sup>	2000 cycles (98.8%)	[26]
7	Co <sub>9</sub> S <sub>8</sub> nanorod@Ni(OH) <sub>2</sub> nanosheet	4 A·g <sup>-1</sup>	2000 cycles (104.5%)	[27]
8	Co <sub>3</sub> O <sub>4</sub> @Co-Ni//AC sulfides core/shell nanowire	60 mA·cm <sup>-2</sup>	4000 cycles (91%)	[41]
9	NiCo <sub>2</sub> O <sub>4</sub> @Co <sub>3</sub> O <sub>4</sub> //AC	2 A·g <sup>-1</sup>	7000 cycles (97%)	[42]
10	NiO@MnOOH//AC	4 A·g <sup>-1</sup>	5000 cycles (105.7%)	[43]
11	a-Fe <sub>2</sub> O <sub>3</sub> @MnO <sub>2</sub> core-shell nanotubes	1 A·g <sup>-1</sup>	1200 cycles (85.3%)	[44]