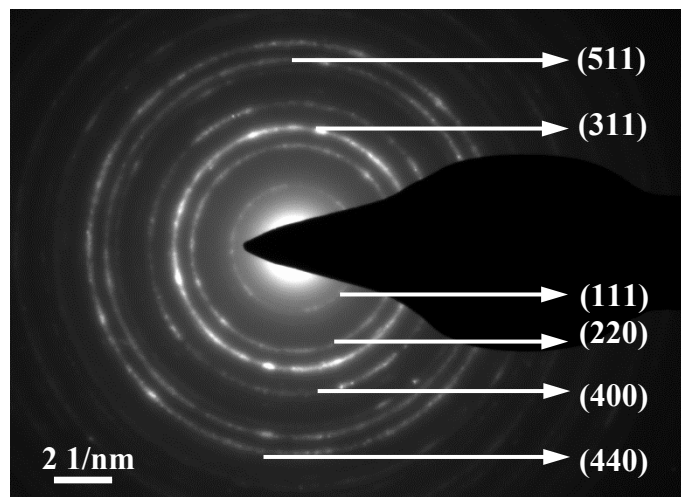
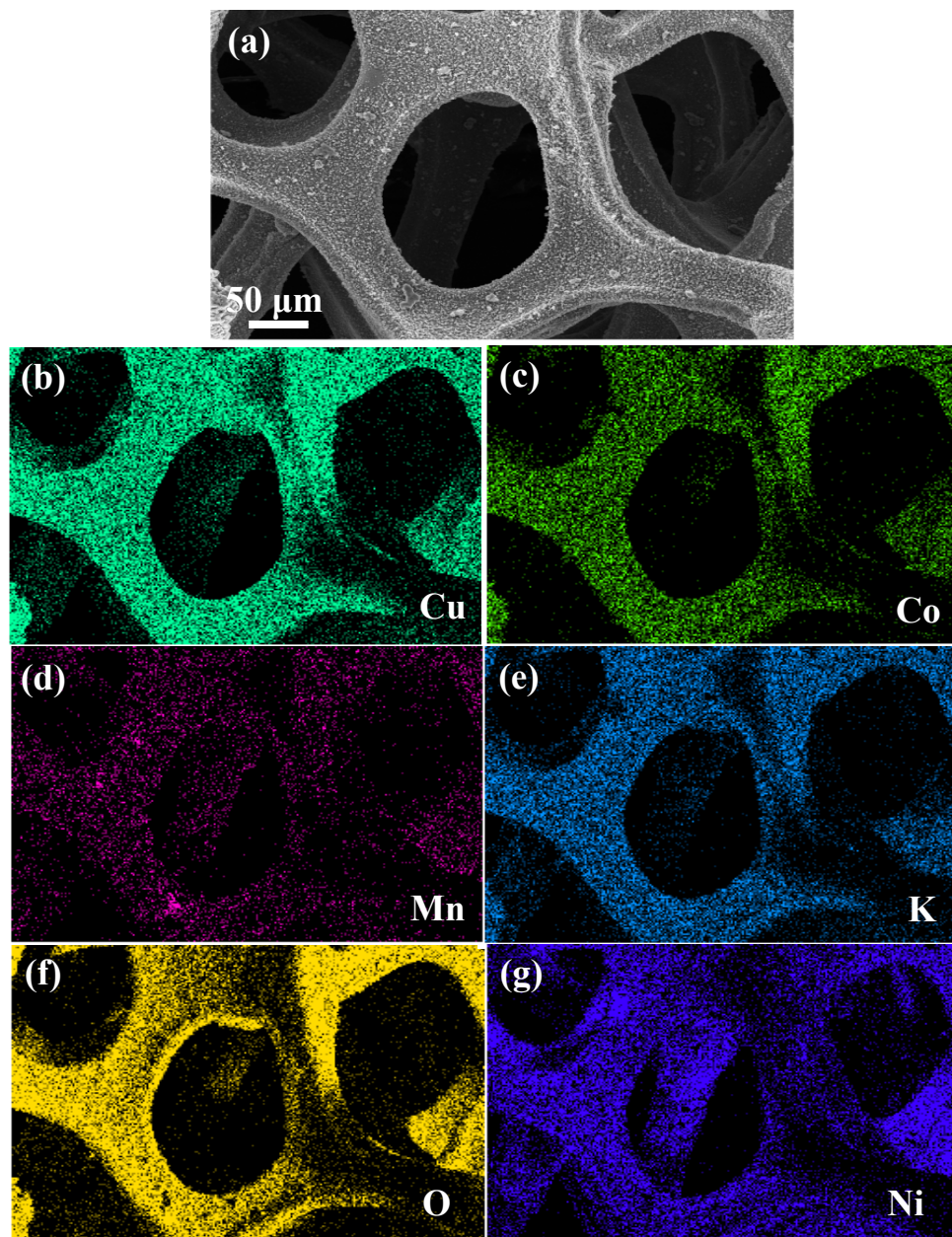


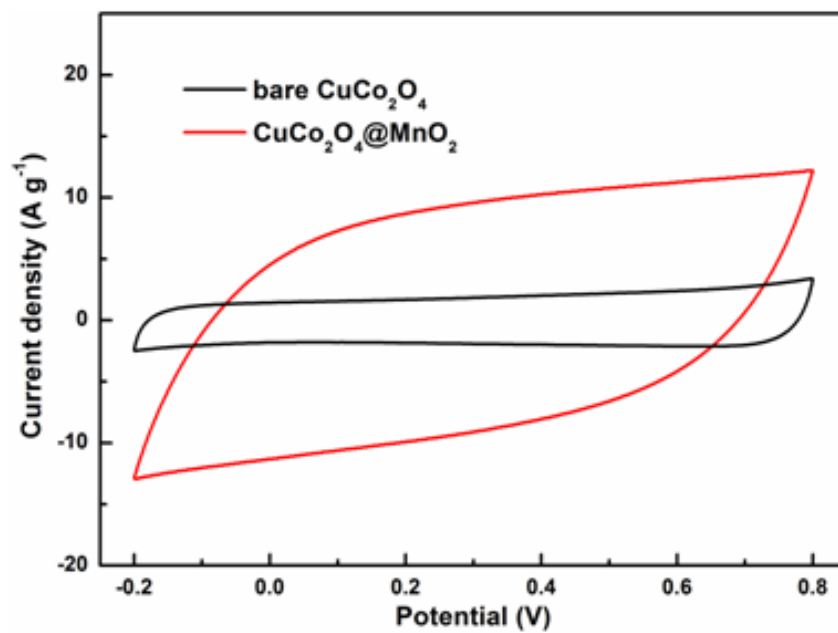
SI-1 SAED pattern of  $\text{CuCo}_2\text{O}_4$  nanosheets.



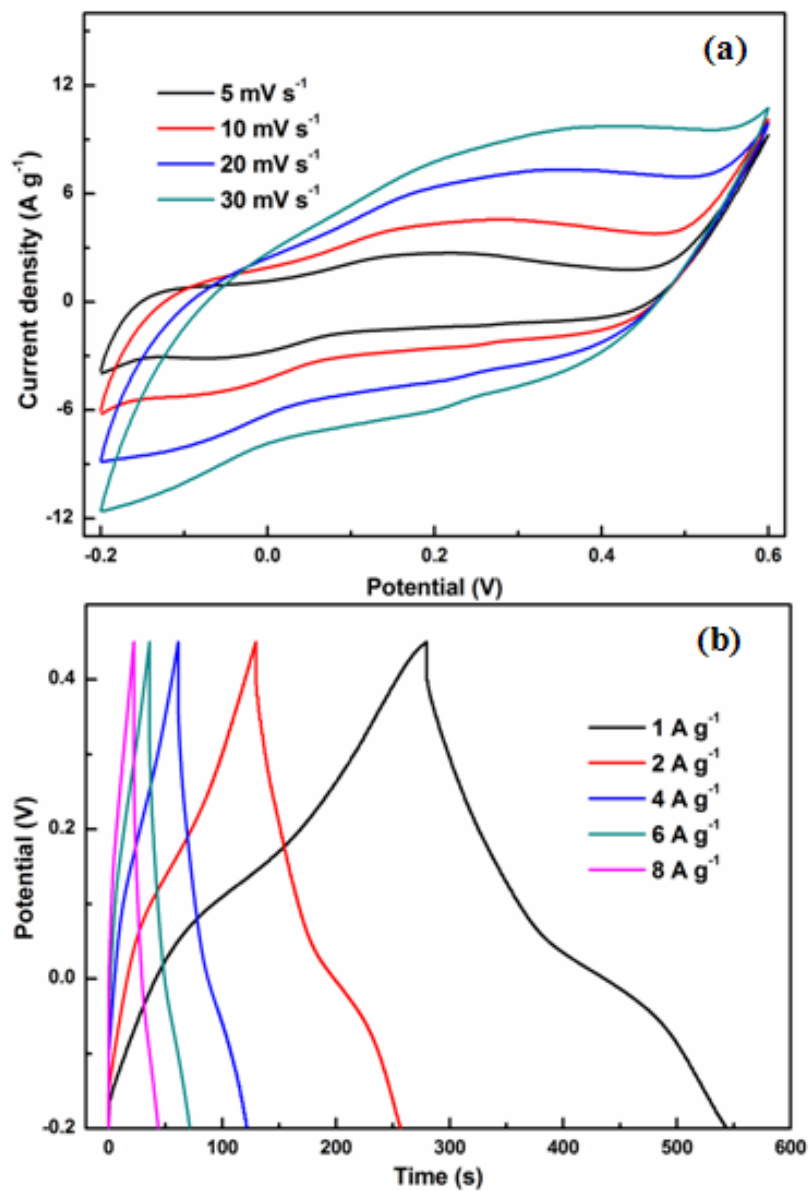
**SI-2** Typical SEM image (a) and the corresponding EDS mapping (b-g) of  $\text{CuCo}_2\text{O}_4@\text{MnO}_2$  core-shell nanostructures grown on Ni foam.



SI-3 Cyclic voltammograms of the  $\text{CuCo}_2\text{O}_4$  and  $\text{CuCo}_2\text{O}_4@\text{MnO}_2$  arrays at scan rate of  $40 \text{ mV s}^{-1}$ .



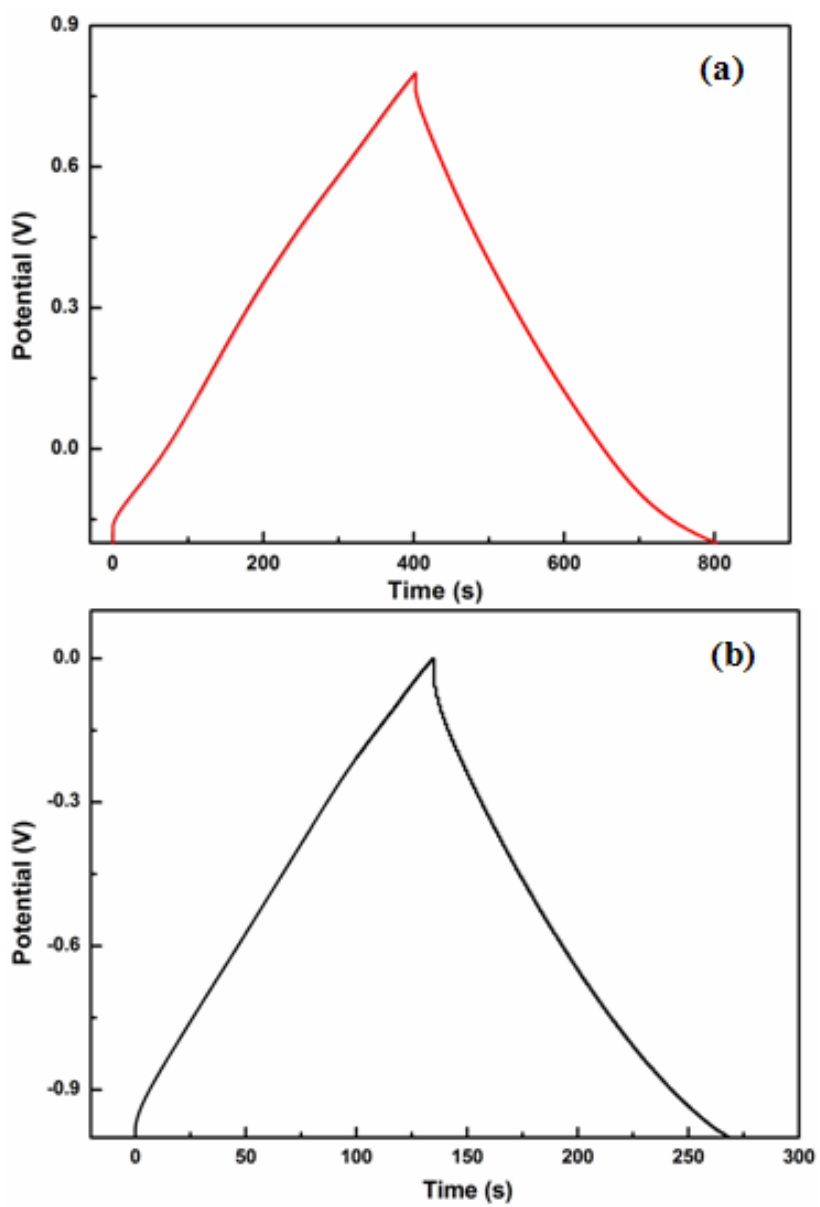
SI-4 CV (a) and GCD (b) curves of  $\text{CuCo}_2\text{O}_4@\text{MnO}_2$  NSCs electrode in 2 M KOH aqueous electrolyte.



**Table S1.** Comparison of specific capacitances of the reported MnO<sub>2</sub>- and CuCo<sub>2</sub>O<sub>4</sub>-based electrodes and the present work. All values are measured using the three-electrode system.

Samples	Cs (F g <sup>-1</sup> )	Electrolyte	Test condition	References
MnO <sub>2</sub> -modified diatomites	202.6	1 M Na <sub>2</sub> SO <sub>4</sub>	0.25 A g <sup>-1</sup>	[1]
MnO <sub>2</sub> /activated carbon	228	1 M Et4NBF4	10 mV s <sup>-1</sup>	[2]
MnO <sub>2</sub> -graphene composites	234.2	0.5 M Na <sub>2</sub> SO <sub>4</sub>	10 mV s <sup>-1</sup>	[3]
MnO <sub>2</sub> -CNT-graphene-Ni foam	251	1 M Li <sub>2</sub> SO <sub>4</sub>	1 A g <sup>-1</sup>	[4]
RGO/MnO <sub>2</sub>	260	1 M Na <sub>2</sub> SO <sub>4</sub>	0.3 A g <sup>-1</sup>	[5]
graphene/MnO <sub>2</sub> /polyaniline	276	1 M Na <sub>2</sub> SO <sub>4</sub>	1 A g <sup>-1</sup>	[6]
MnO <sub>2</sub> -graphene	315	1 M Na <sub>2</sub> SO <sub>4</sub>	0.2 A g <sup>-1</sup>	[7]
MnO <sub>2</sub> /graphene	324	1 M Na <sub>2</sub> SO <sub>4</sub>	10 mV s <sup>-1</sup>	[8]
CuCo <sub>2</sub> O <sub>4</sub> @MnO <sub>2</sub> nanowires	327	1 M Na <sub>2</sub> SO <sub>4</sub>	1.25 A g <sup>-1</sup>	[9]
MnO <sub>2</sub> /graphene	327.5	1 M Na <sub>2</sub> SO <sub>4</sub>	10 mV s <sup>-1</sup>	[10]
CuCo <sub>2</sub> O <sub>4</sub> nanostructures	338	1 M KOH	1 A g <sup>-1</sup>	[11]
Ni(OH) <sub>2</sub> /MnO <sub>2</sub>	355	1 M Na <sub>2</sub> SO <sub>4</sub>	0.5 A g <sup>-1</sup>	[12]
MnO <sub>2</sub> /Ni/graphite	428	0.5 M Na <sub>2</sub> SO <sub>4</sub>	100 mV s <sup>-1</sup>	[13]
TiO <sub>2</sub> @MnO <sub>2</sub>	454.2	1 M Na <sub>2</sub> SO <sub>4</sub>	0.2 A g <sup>-1</sup>	[14]
MnO <sub>2</sub> /porous carbon microspheres	459	6 M KOH	1 A g <sup>-1</sup>	[15]
Ni(OH) <sub>2</sub> /MnO <sub>2</sub>	487.4	1 M KOH	0.5 A g <sup>-1</sup>	[12]
CuCo <sub>2</sub> O <sub>4</sub> @MnO <sub>2</sub> nanosheets	416	1 M Na <sub>2</sub> SO <sub>4</sub>	1 A g <sup>-1</sup>	This work

SI-5 GCD curves of the  $\text{CuCo}_2\text{O}_4@\text{MnO}_2$  NSCs electrode (a) and AG electrode (b) in a three-electrode system in a 1M  $\text{NaSO}_4$  electrolyte at a current density  $1 \text{ A g}^{-1}$ .



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