

# Constructed high-performance electrode material of $\text{NiCo}_2\text{O}_4$ Nanoparticles Encapsulated in Ultrathin N-doped Carbon Nanosheets for Supercapacitor

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Fig. s1 (a) describes the CV curves of NiCo<sub>2</sub>O<sub>4</sub> at different scanning rates of 10, 20, 40, 50 and 100 mV s<sup>-1</sup>. With the increase of scanning rate, the oxidation peak moves to a higher potential, while the reduction peak moves to a lower potential, which is due to the limitation of ion diffusion rate in electron neutralization during redox reaction. Each curve shows a pair of redox peaks, which originate from Faraday redox reaction and relate to the surface reversible redox reaction. Most importantly, NiCo<sub>2</sub>O<sub>4</sub> composite electrode is similar and almost does not deform, indicating that the composite electrode has good conductivity. Fig. s1 (b) shows the GCD curves of the N-C/NiCo<sub>2</sub>O<sub>4</sub> composite electrode at the current rates of 1, 2, 3, 4 and 5 A g<sup>-1</sup>. The equivalent substitution shows low energy and high specific capacity, and the equivalent doping Ni<sup>2+</sup> site charge concentration of olivine structure does not change.

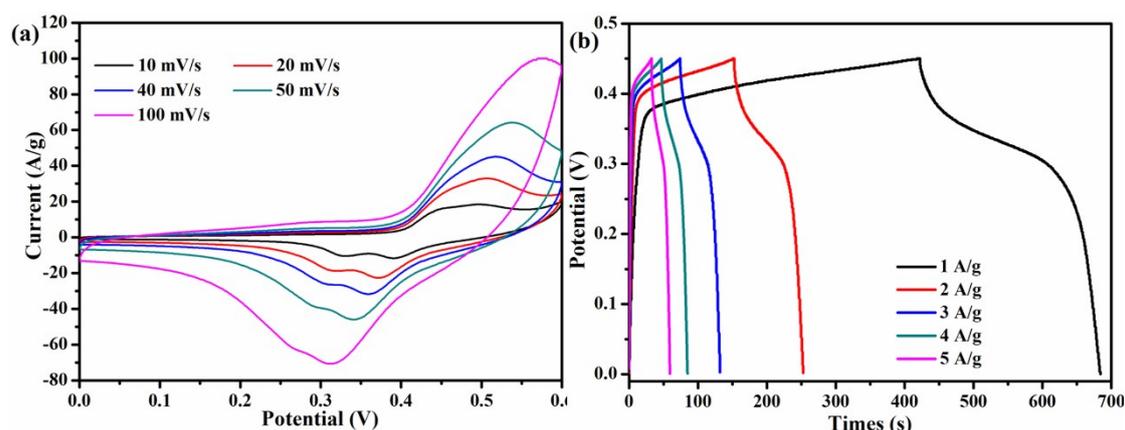


Fig. s1 (a) CV and (b) GCD curves of NiCo<sub>2</sub>O<sub>4</sub> at different scan rates and different current density.

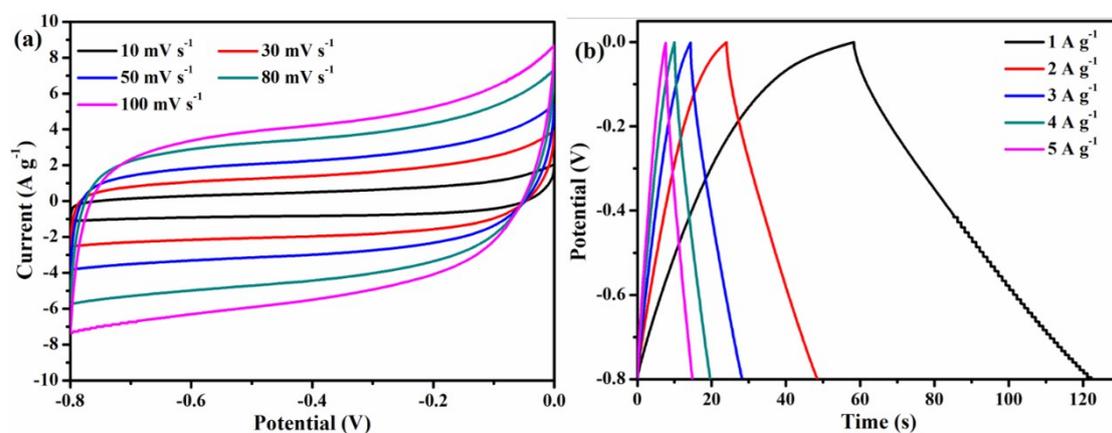


Fig. s2 (a) CV and GCD curves of AC at different scan rates and different current density.