Supplementary information

Anodic NiO nanoparticles as a high performance asymmetric supercapacitor device in hybrid electrolyte

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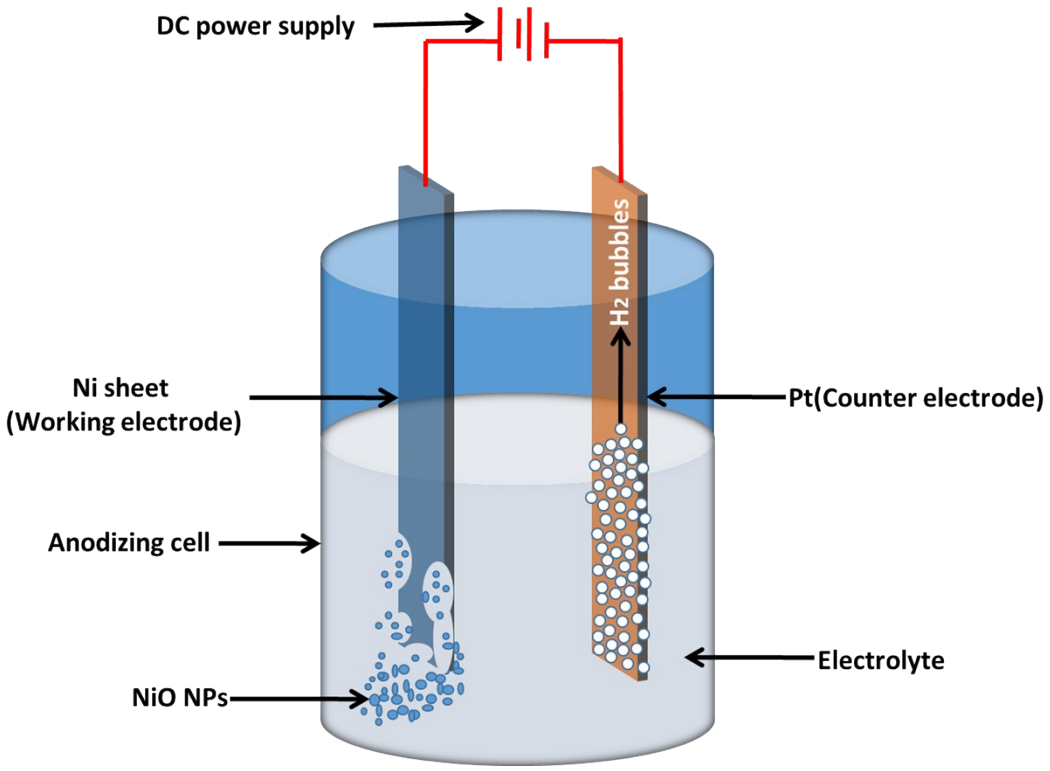

Fig. S1. The schematic diagram of the anodization process.

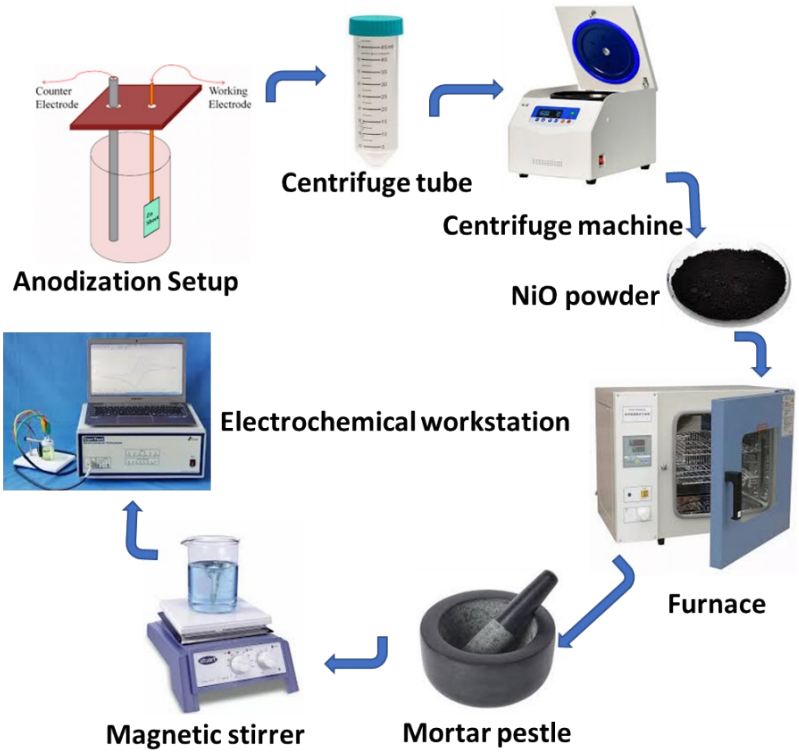

Fig. S2. The overall mechanism from the anodic NiO NPs production to the electrochemical measurements.

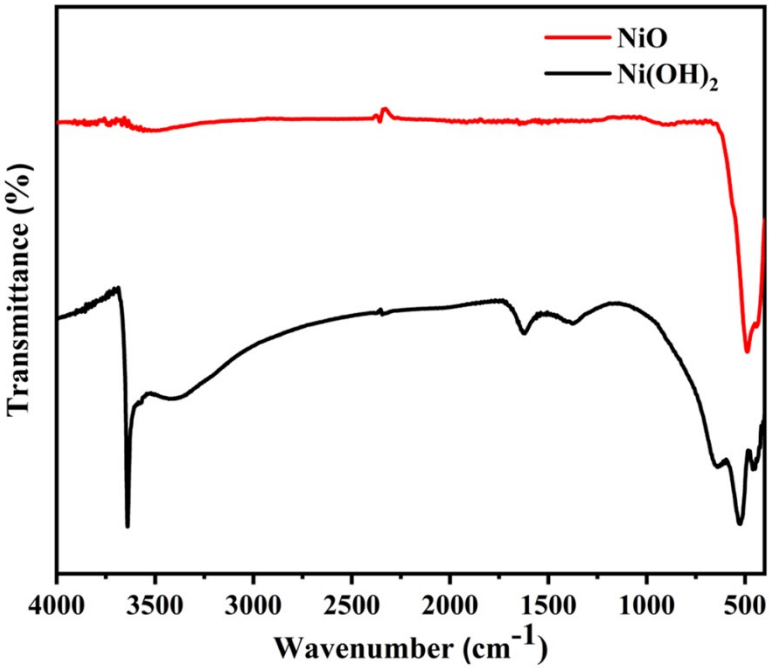

Fig. S3. FTIR spectra of $Ni(OH)_2$ nanoflowers and NiO NPs.

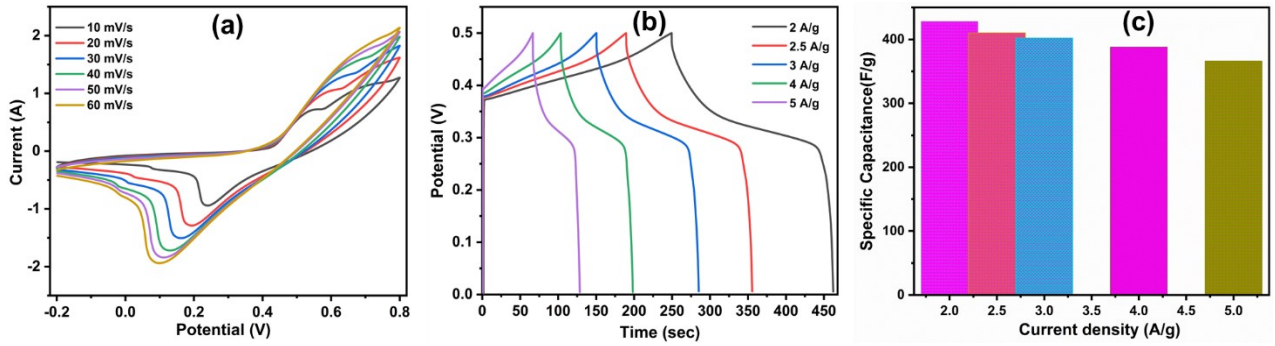

Fig. S4. Electrochemical study of $Ni(OH)_2$ nanoflowers in the hybrid electrolyte (a) CV of the $Ni(OH)_2$ nanoflowers at different scan rates, (b) GCD curves at various current densities, and (c) specific capacitance at different current densities.

Table. S1. Kinetic parameters of NiO NPs and $Ni(OH)_2$ nanoflowers in the hybrid electrolyte.

Material	**R_s (Ω)**	**R_{ct} (Ω)**
NiO NPs	0.8	2.3
Ni(OH)2	1.2	2.9

Table S2. Specific capacitance of the fabricated device at various current densities

Current density (A/g)	Specific capacitance (F/g)
1.5	170
2	163
3	157
4	133
5	87