Supplementary Information

Single-Crystal β-NiS Nanorods Arrays with Hollow-Structured Ni_3S_2 Framework for Supercapacitor Applications

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KEYWORDS: supercapacitor, nickel sulfides, Ni_3S_2, β-NiS nanorods

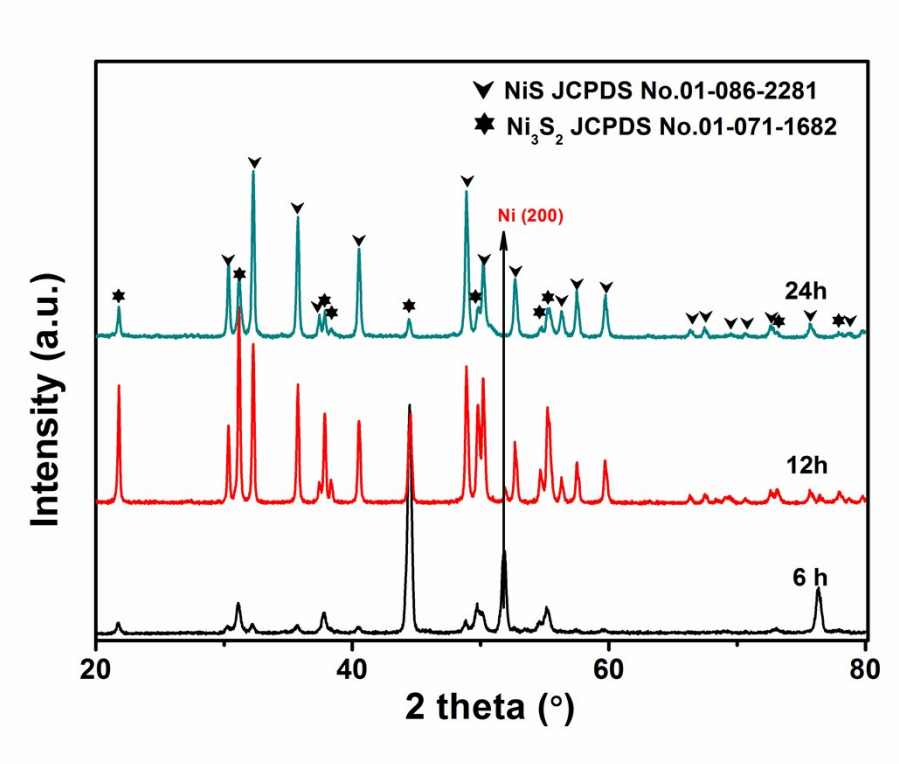

Figure S1. XRD patterns of the as-prepared samples with different reaction times of 6h, 12h, and 24h.

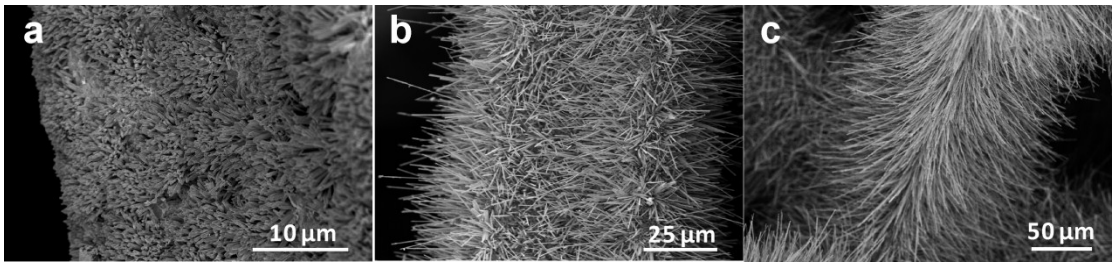

Figure S2. SEM images of the samples with different reaction times. (a)6h, (b)12h, (c)24h.

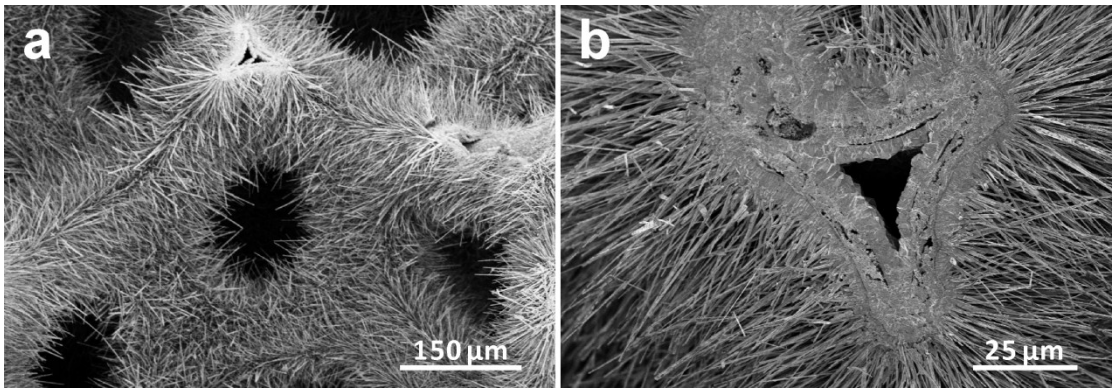

Figure S3. SEM images of the Ni_3S_2@β-NiS materials with hollow structured framework.

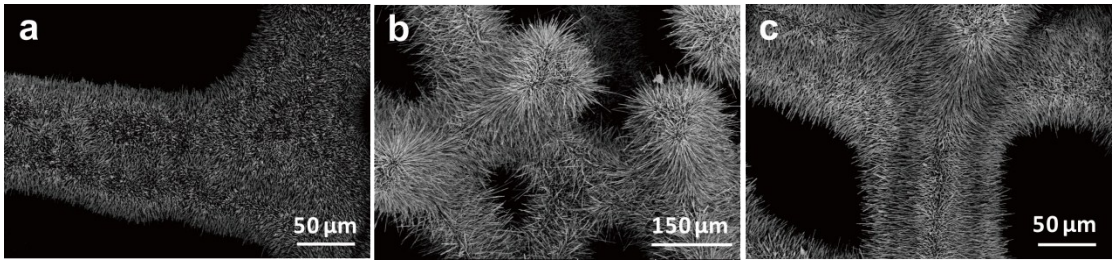

Figure S4. SEM images of the pine twig-like structure of the samples under the same system at different temperature for 24h. (a)140 ℃, (b)160 ℃, (c)180 ℃.

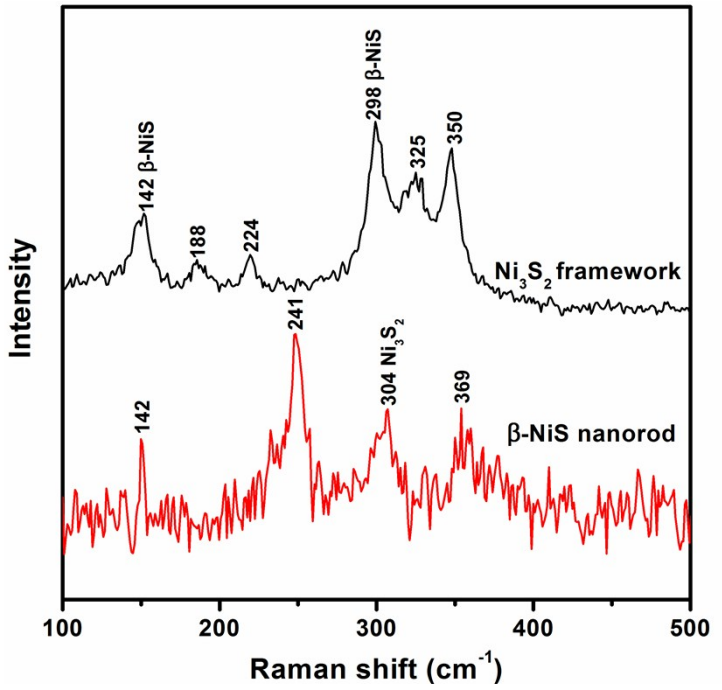

Figure S5. Ramon spectra of the as-obtained Ni_3S_2@β-NiS.

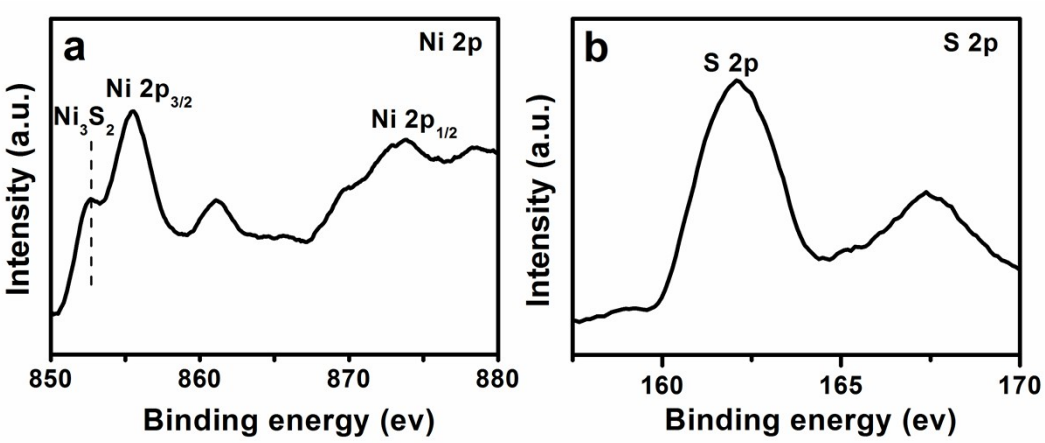

Figure S6. XPS spectra of the as-obtained Ni_3S_2@β-NiS.(a)Ni2p, (b)S2p.

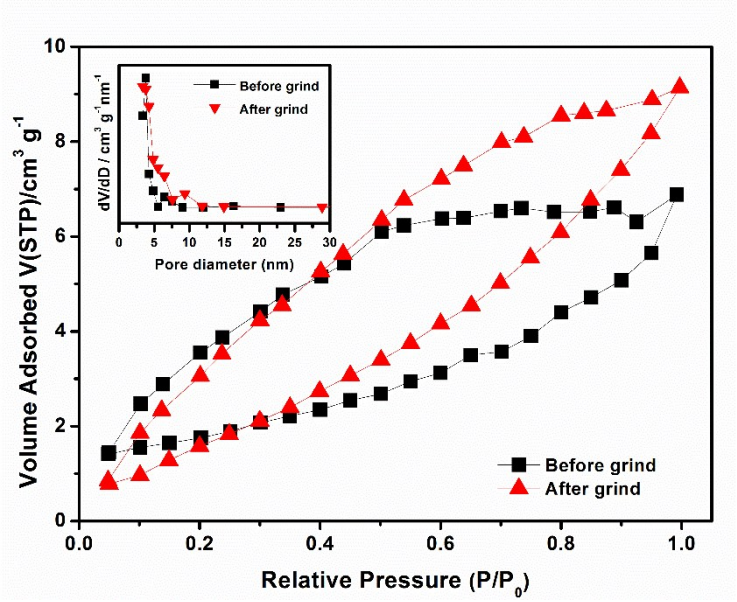

Figure S7. Nitrogen adsorption-desorption isotherm (with the pore size distribution calculated using the BJH method from the desorption plot in the inset) of the Ni_3S_2@β-NiS.

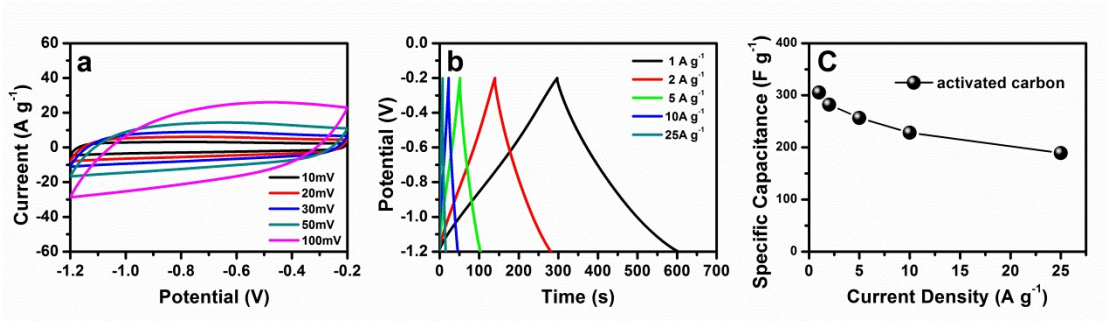

Figure S8. Electrochemical performance of AC negetive electrode in 6M KOH. (a) Cyclic voltammetry, (b) galvanostatic charge-discharge curves with different current density, (c) rate capability of AC.

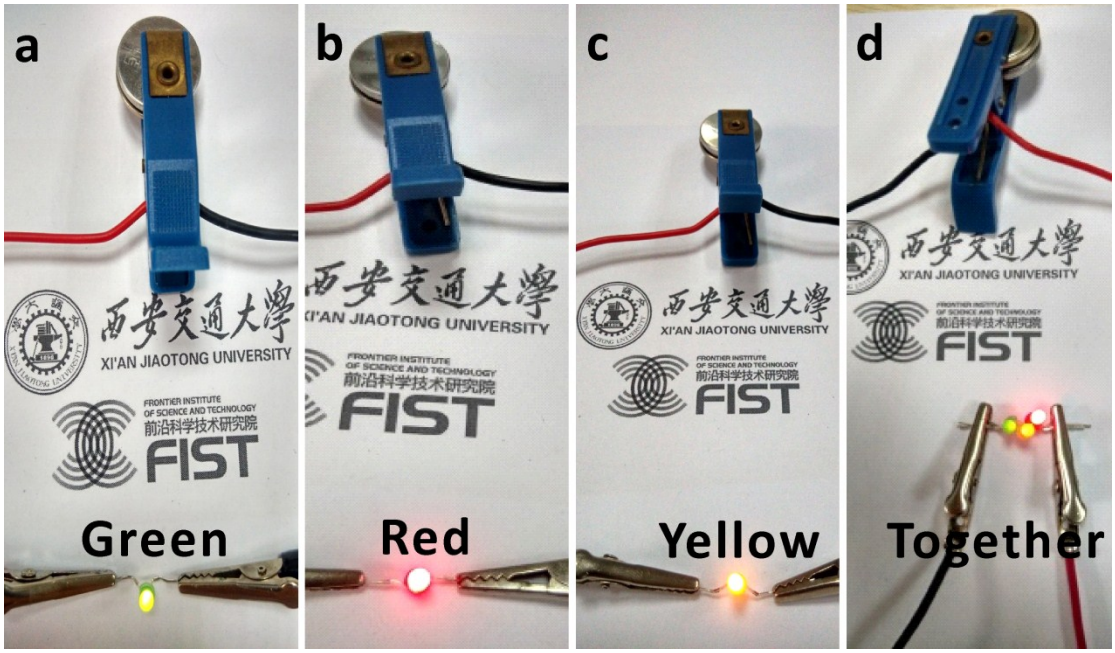

Figure S9. Photographs of parallel LEDs with different colors powered by two asymmetric supercapacitors. (a) green (b) red, (c) yellow, and (d) parallel LEDs with three different colors.