

Supplementary Information

Mesoporous NiO with Various Hierarchical Nanostructures by Quasi-Nanotubes/Nanowires/Nanorods Self-Assembly: Controllable Preparation and Application in Supercapacitors

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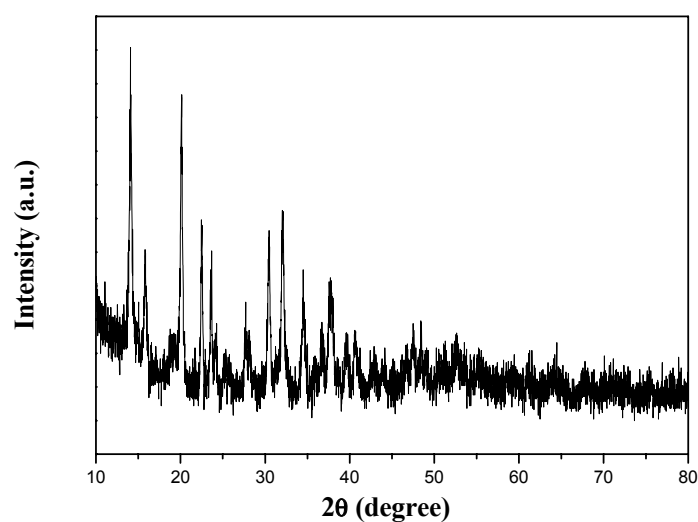


Fig. S1 XRD pattern of the NiO corresponding precursor obtained in the hydrothermal system with the molar ratio of oxalic-acid/NaOH = 1:1 at 180 °C for 20 h.

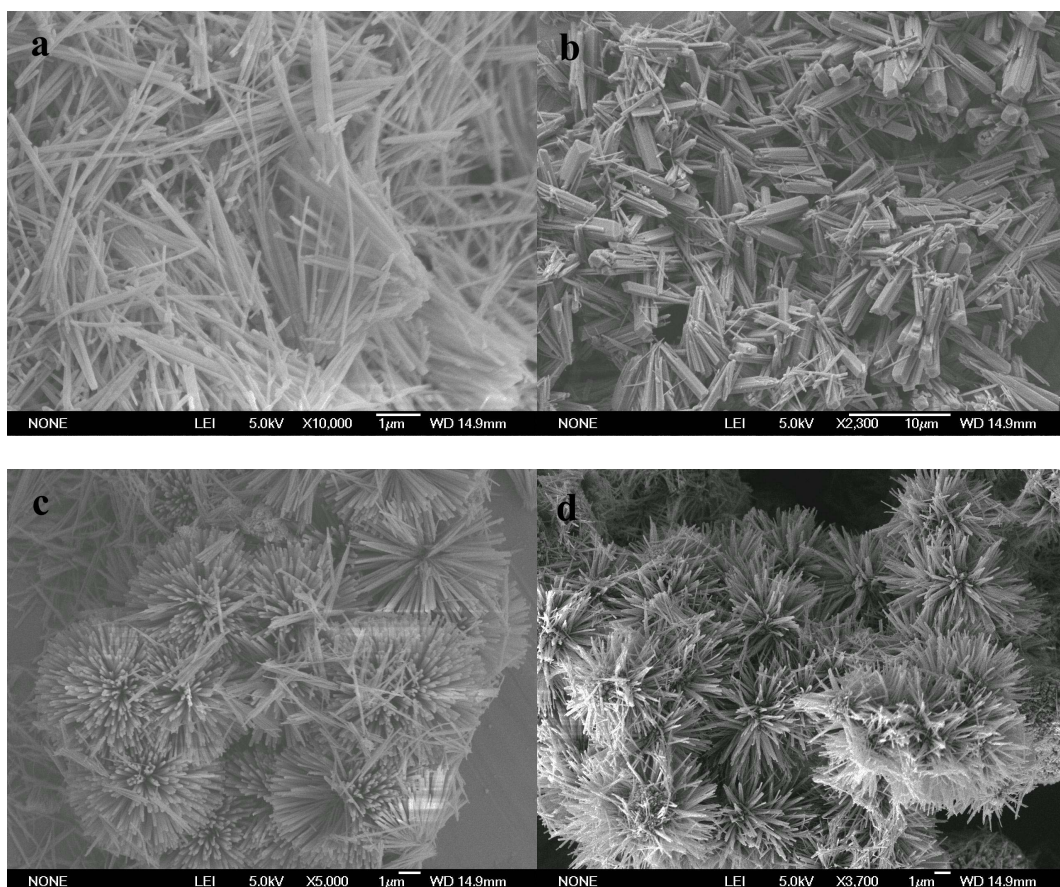


Fig. S2 FESEM images of the corresponding precursors obtained in the different hydrothermal conditions. (a) The molar ratio of oxalic-acid/NaOH = 1:1 at 180 °C for 20 h. (b) The molar ratio of oxalic-acid/NaOH = 2:1 at 140 °C for 20 h. (c) The molar ratio of oxalic-acid/NaOH = 1:1 at 140 °C for 20 h. (d) The molar ratio of oxalic-acid/NaOH = 1:2 at 140 °C for 20 h.

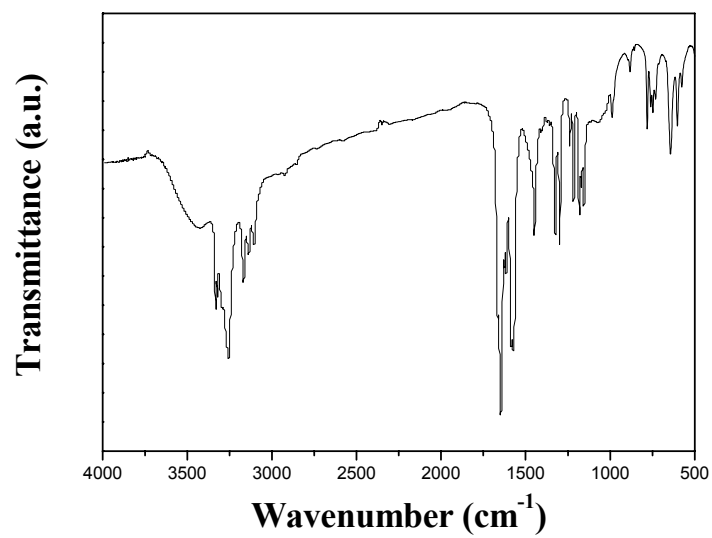


Fig. S3 FTIR spectrum of the NiO corresponding precursor obtained in the hydrothermal system with the molar ratio of oxalic-acid/NaOH = 1:1 at 180 °C for 20 h.

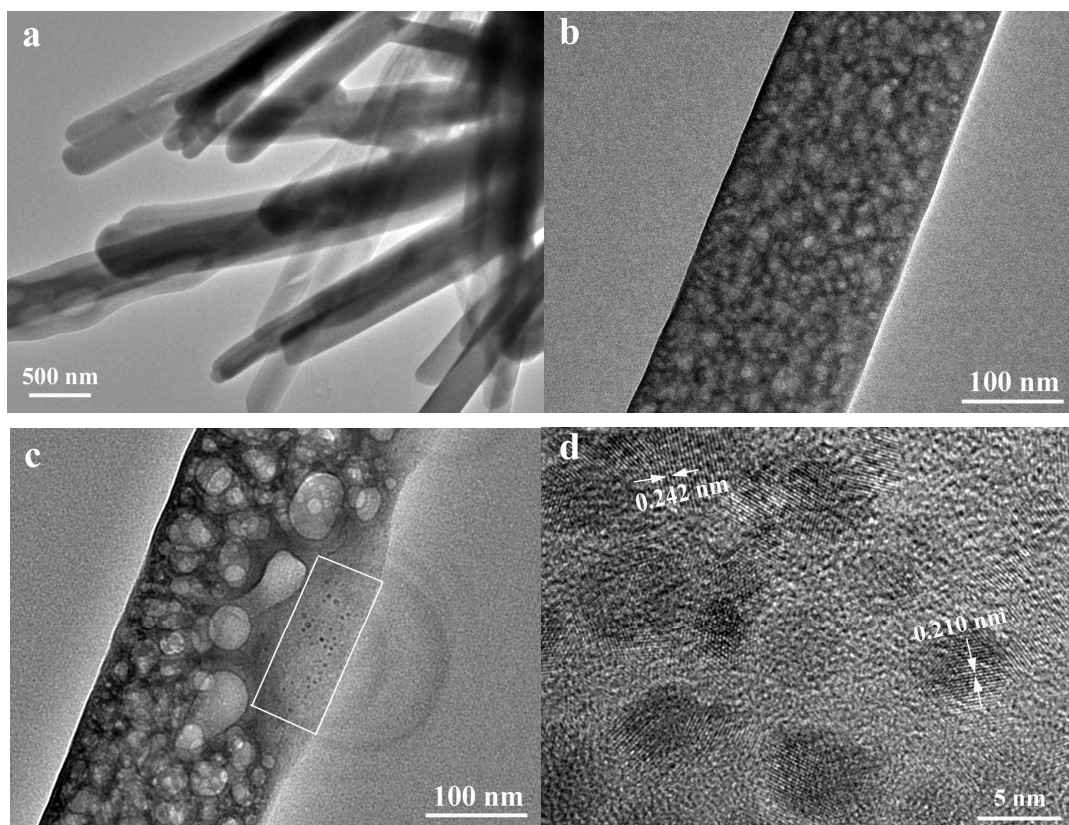


Fig. S4 (a) low-magnification TEM image of NiO precursor obtained in the hydrothermal system with the molar ratio of oxalic-acid/NaOH = 1:1 at 180 °C for 20 h. (b) a TEM image of a single wire and (c) the corresponding TEM image after a short-while irradiation of electron-beam. Particles are marked in the rectangular. (d) The HRTEM image of particles shown in Figure S4c.

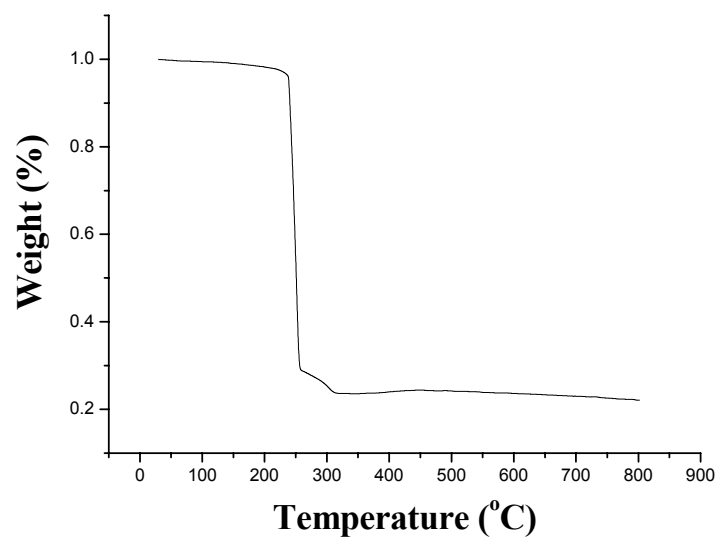


Fig. S4 TGA curve of the NiO corresponding precursor obtained in the hydrothermal system with the molar ratio of oxalic-acid/NaOH = 1:1 at 180 °C for 20 h.

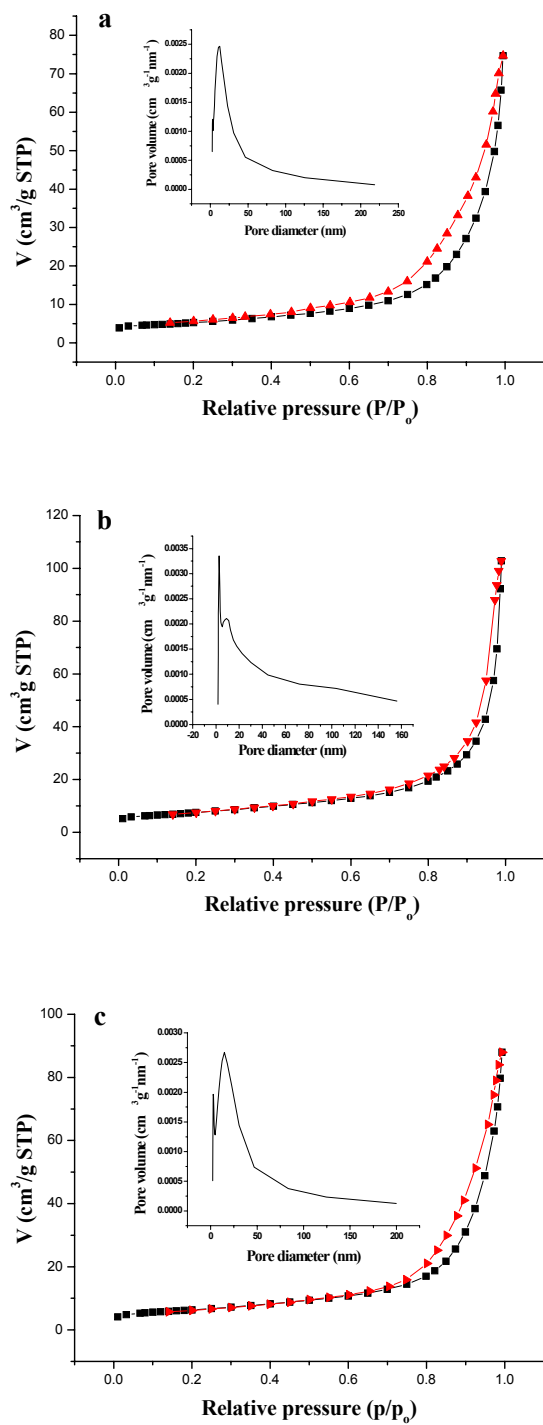


Fig. S5 Nitrogen adsorption isotherms of NiO nanowire bundles (a), dandelions (b), and hollow sphere by nanorods self-assembly (c). The insets show the corresponding Barrett–Joyner–Halenda (BJH) pore size distribution plot.