Supporting Information

Novel Three-dimensional Flower-like Porous Al_2O_3 Nanosheets Anchoring hollow NiO Nanoparticles for High-effeciency Lithium Ion Battery

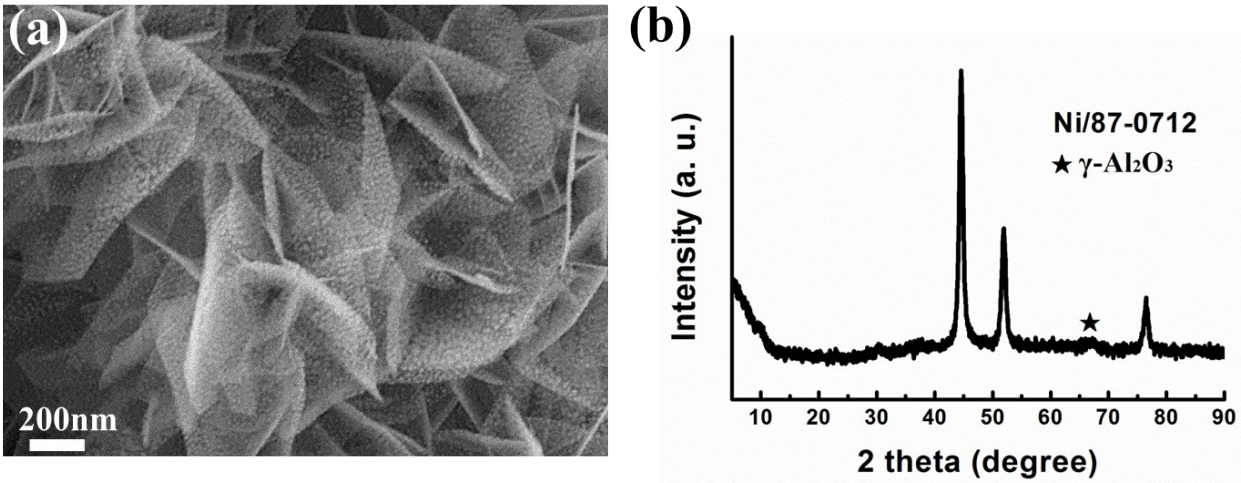

Figure S1 (a) SEM image and (b) XRD pattern of FH-Ni@Al_2O_3.

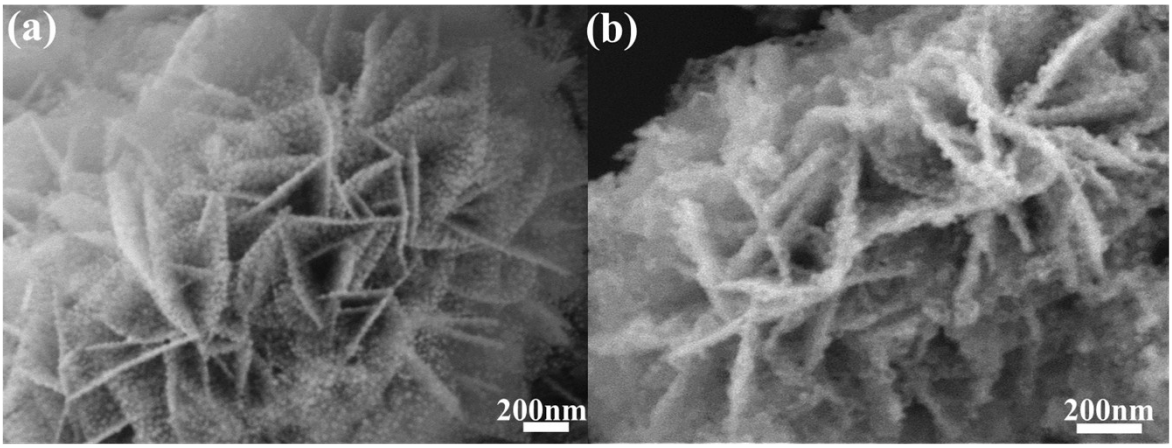

Figure S2 SEM images of flower-like Ni@Al_2O_3 synthesized at (a) 250 and (b) 450 ^oC, respectively.

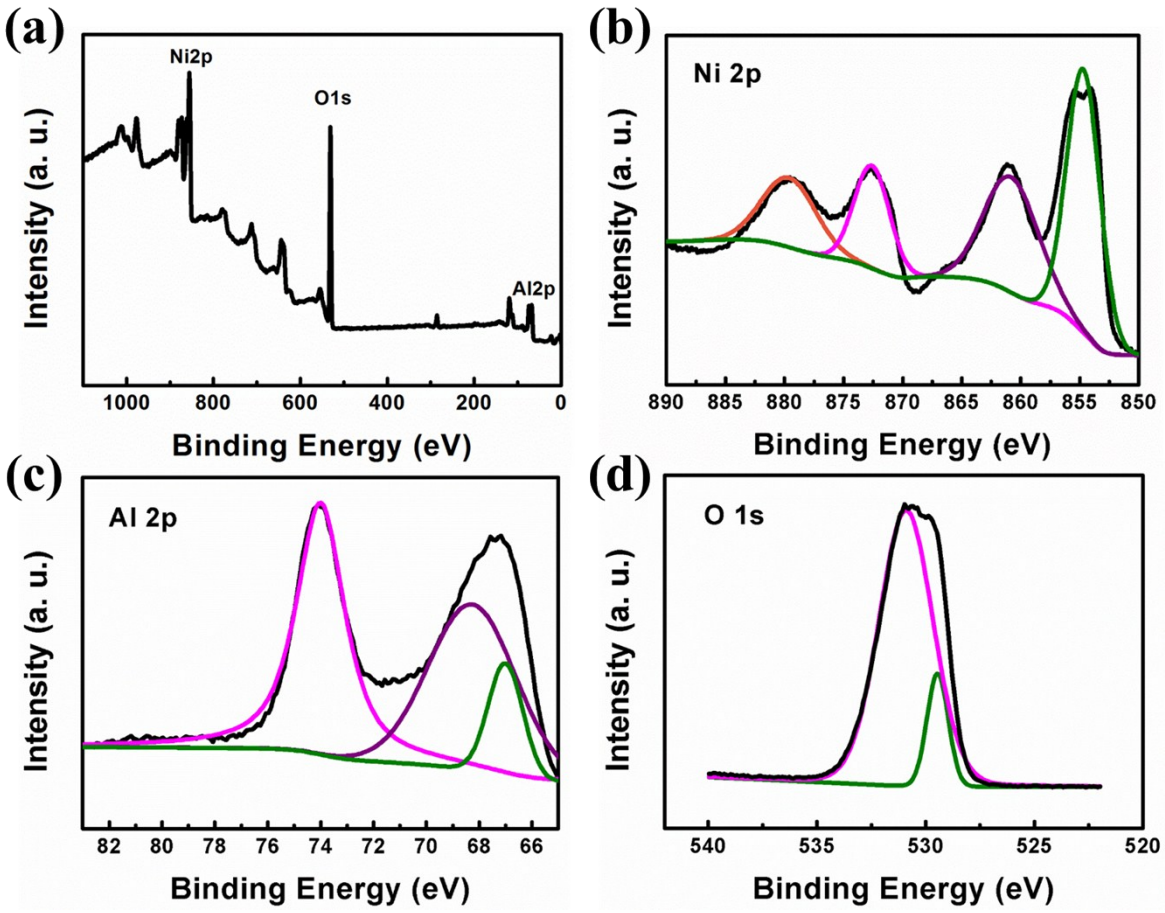

Figure S3 XPS of FH-NiO@Al_2O_3. (a) The whole spectrum from 1100-0 eV. (b), (c) and (d) are the XPS spectra of Ni 2p, Al 2p and O 1s, respectively.

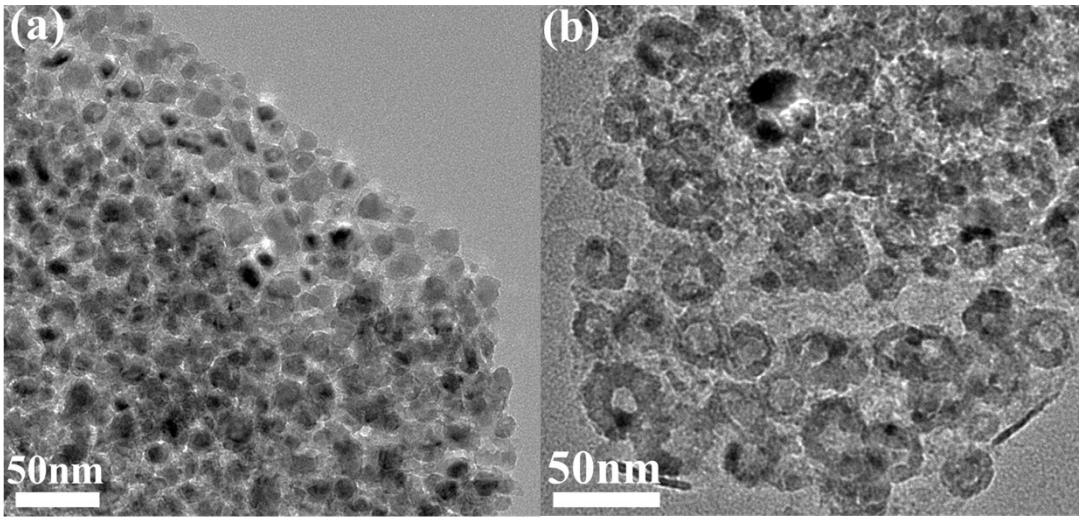

Figure S4 TEM images of (a) F-Ni@Al_2O_3-250 and (b)F-Ni@Al_2O_3-450.

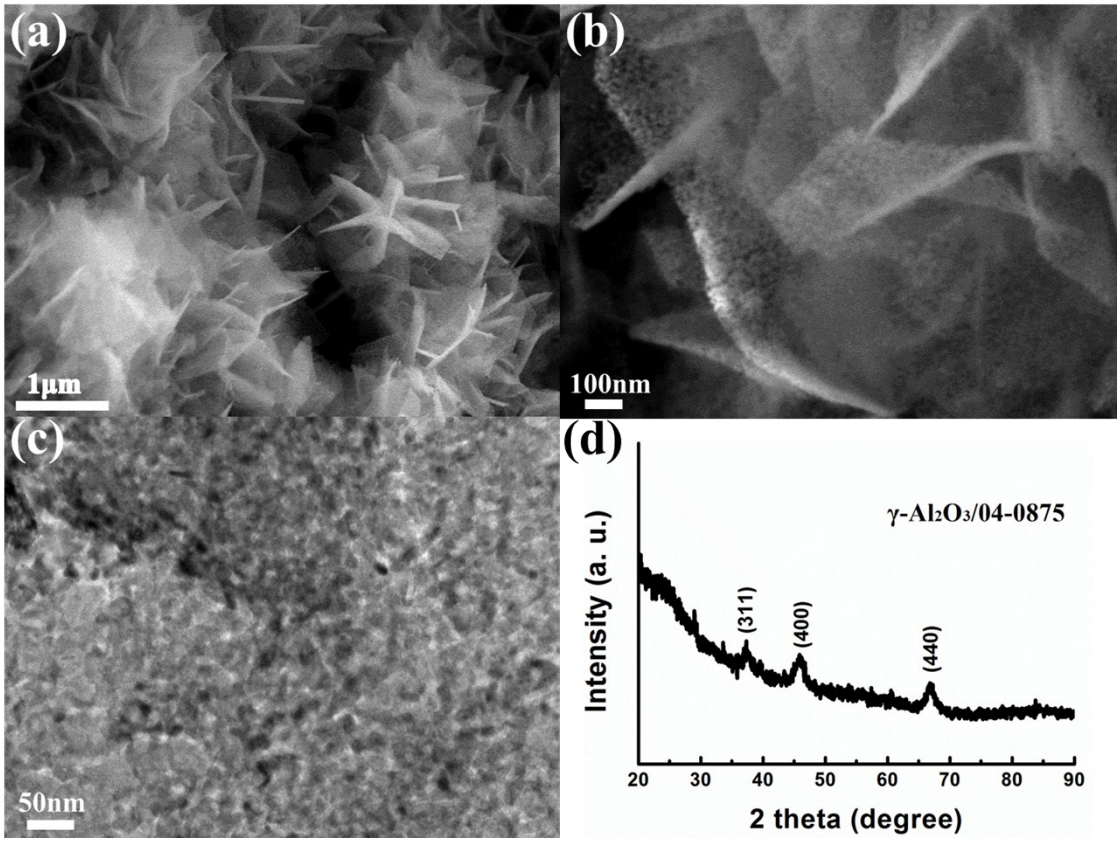

Figure S5 (a) and (b) SEM images of flower-like Al_2O_3 nanosheets after dissolution by 1 M HCl. (c) TEM image and (d) XRD pattern of flower-like Al_2O_3 nanosheets.

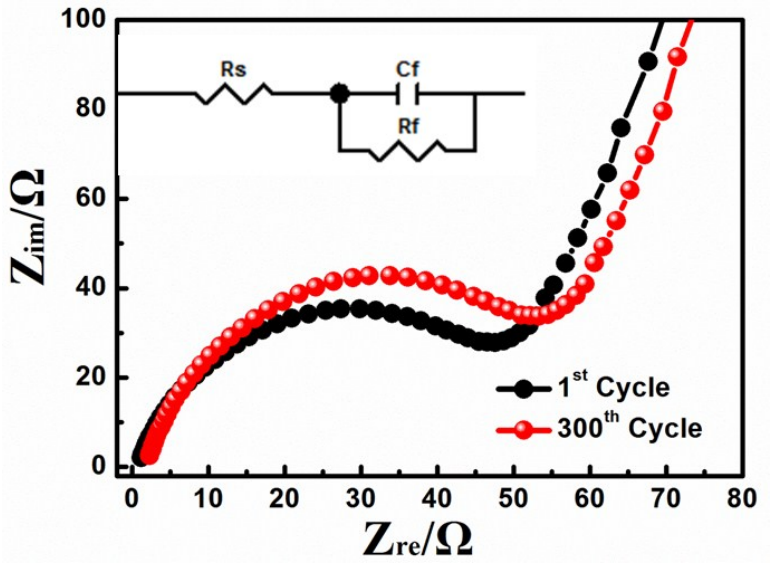

Figure S6 Nyquist plots of FH-NiO@Al_2O_3 before and after running for 300 cycles.

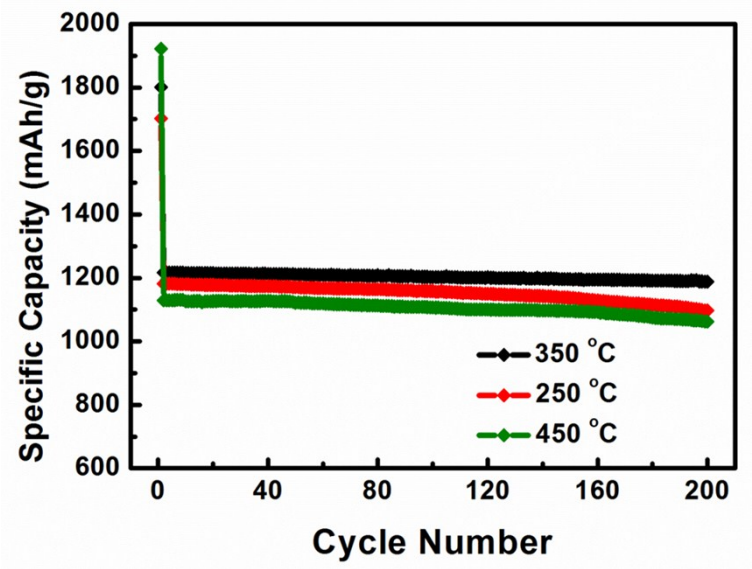

Figure S7 Galvanostatic charge/discharge curves of flower-like NiO@Al_2O_3 prepared at deferent temperatures at the current density of 500 mA/g.

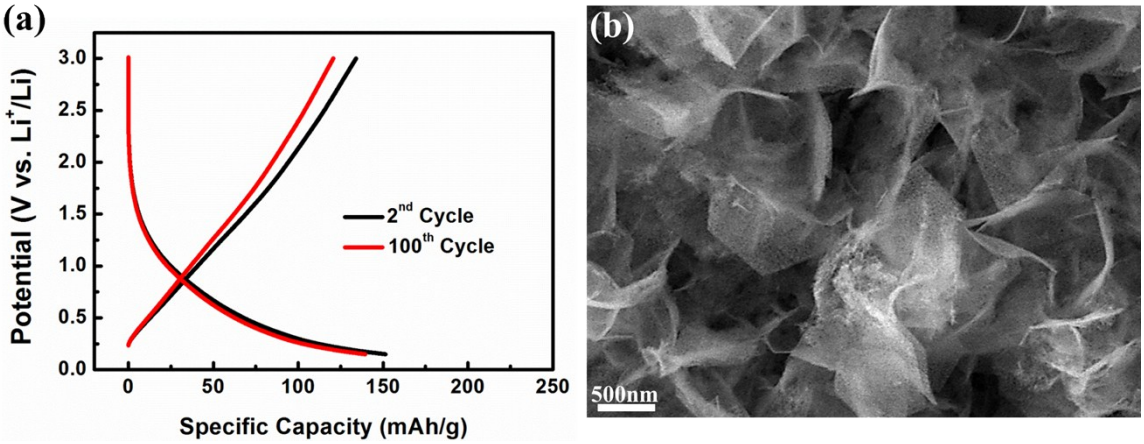

Figure S8 (a) Galvanostatic charge/discharge curves at the current density of 100 mA/g for 100 cycles. (b) SEM image of flower-like Al_2O_3 nanosheets after 100 cycles.

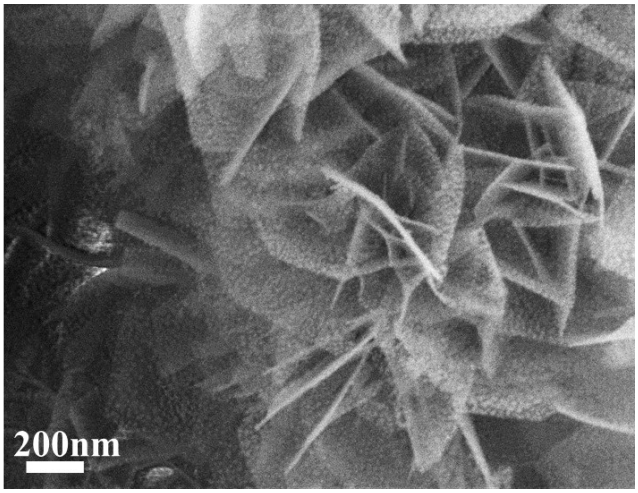

Figure S9 SEM image of FH-NiO@Al_2O_3 after running for 300 cycles.

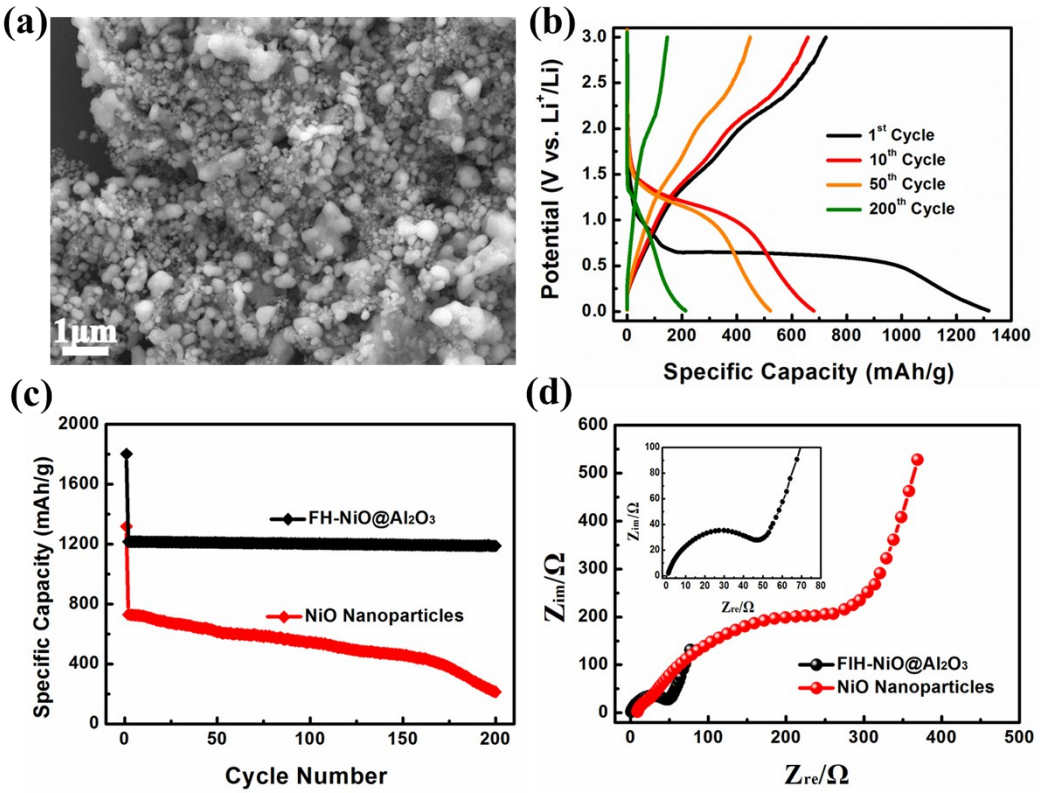

Figure S10 (a) SEM image of NiO nanoparticles without Al_2O_3. (b) Galvanostatic charge/discharge curves of NiO nanoparticles at the current density of 500 mA/g for 200 cycles. (c) Cyclic test and (d) EIS measurement of both FH-NiO@Al_2O_3 and NiO nanoparticles for comparison.