Electronic Supplementary Information (ESI) for

Fabrication of Amorphous Carbon-Coated NiO Nanofibers for Electrochemical Capacitor Applications

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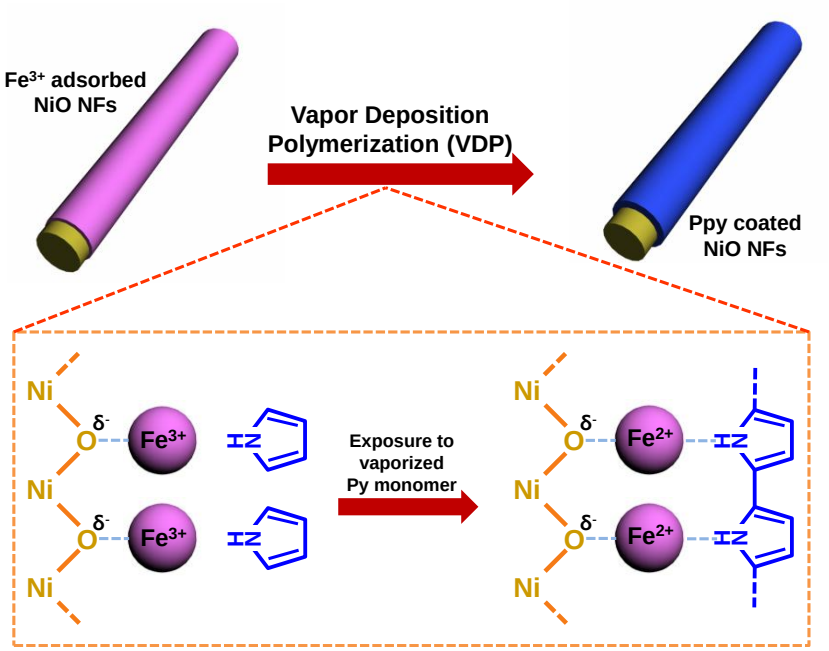

Figure S1. Illustration of the chemical oxidation polymerization process on the NiO NFs surfaces.

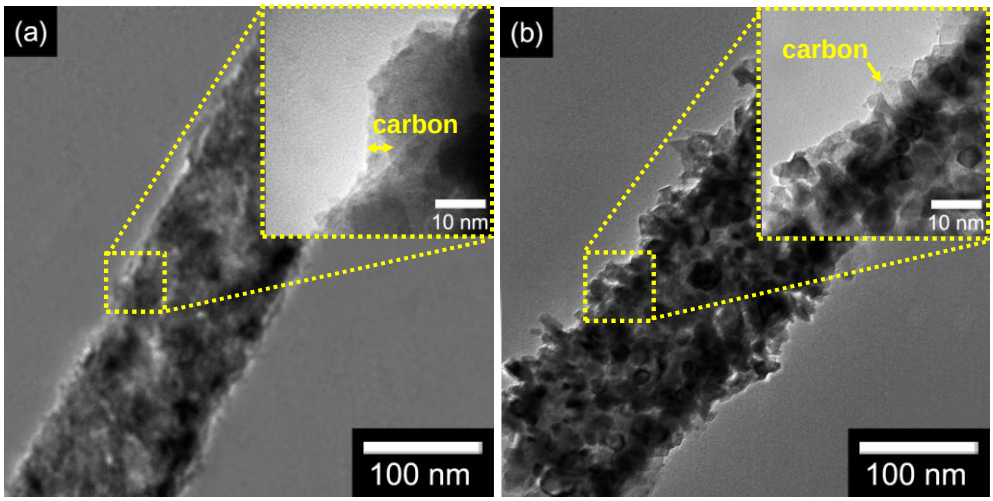

Figure S2. TEM and HR-TEM (inset) images of NiC NFs cabonized at (a) 500 °C and (b) 600 °C for 1 h with argon flow.

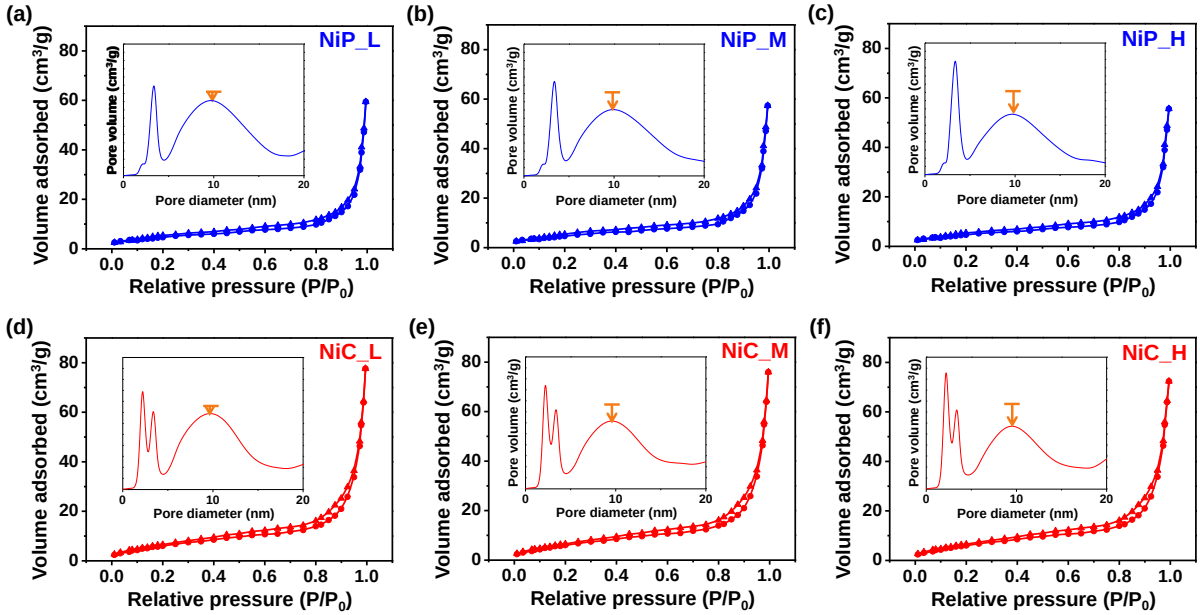

Figure S3. BET and BJH (inset) of polypyrrole coated NiO NFs with (a) low, (b) medium, (c) high thickness coating layer, and amorphous carbon-coated NiO NFs with (d) low, (e) medium, (f) high thickness coating layer.

Table S1. Coating layers thickness and surface area of each sample.

Sample	Coating layer thickness (nm)	Surface area (m^2 g^{-1})
Pristine NiO NFs	-	118
NiP_L	5	136
NiP_M	10	123
NiP_H	15	117
NiC_L	3	144
NiC_M	7	130
NiC_H	12	124

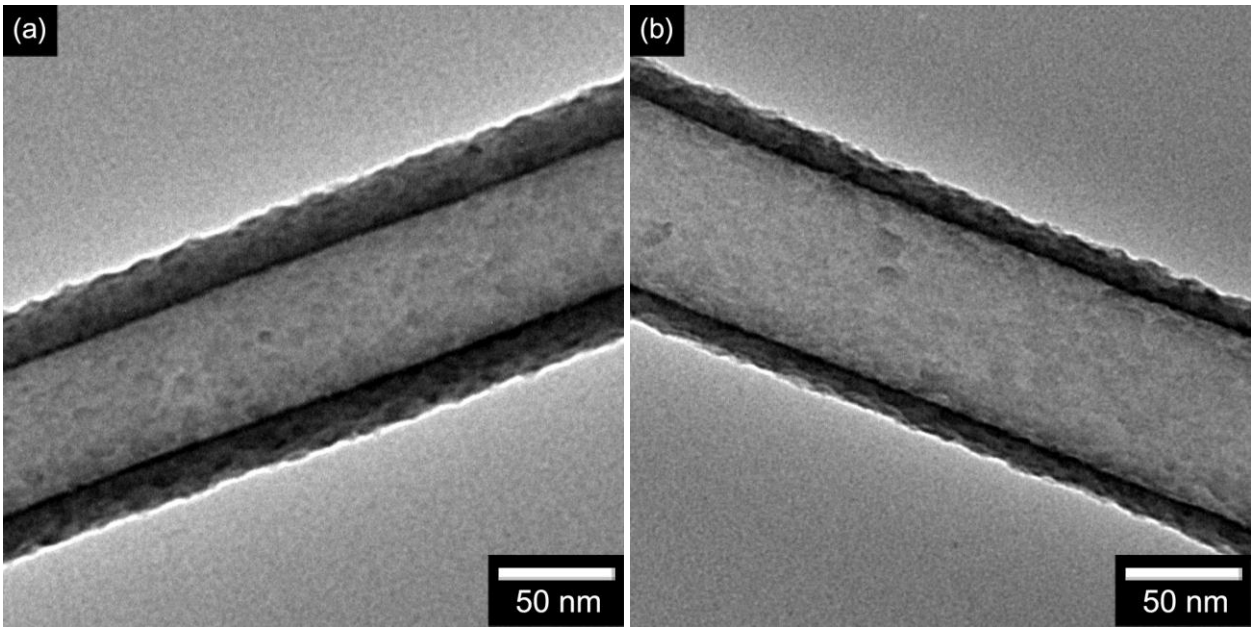

Figure S4. TEM images of (a) PPy NTs and (b) CNTs fabricated by hard template method.

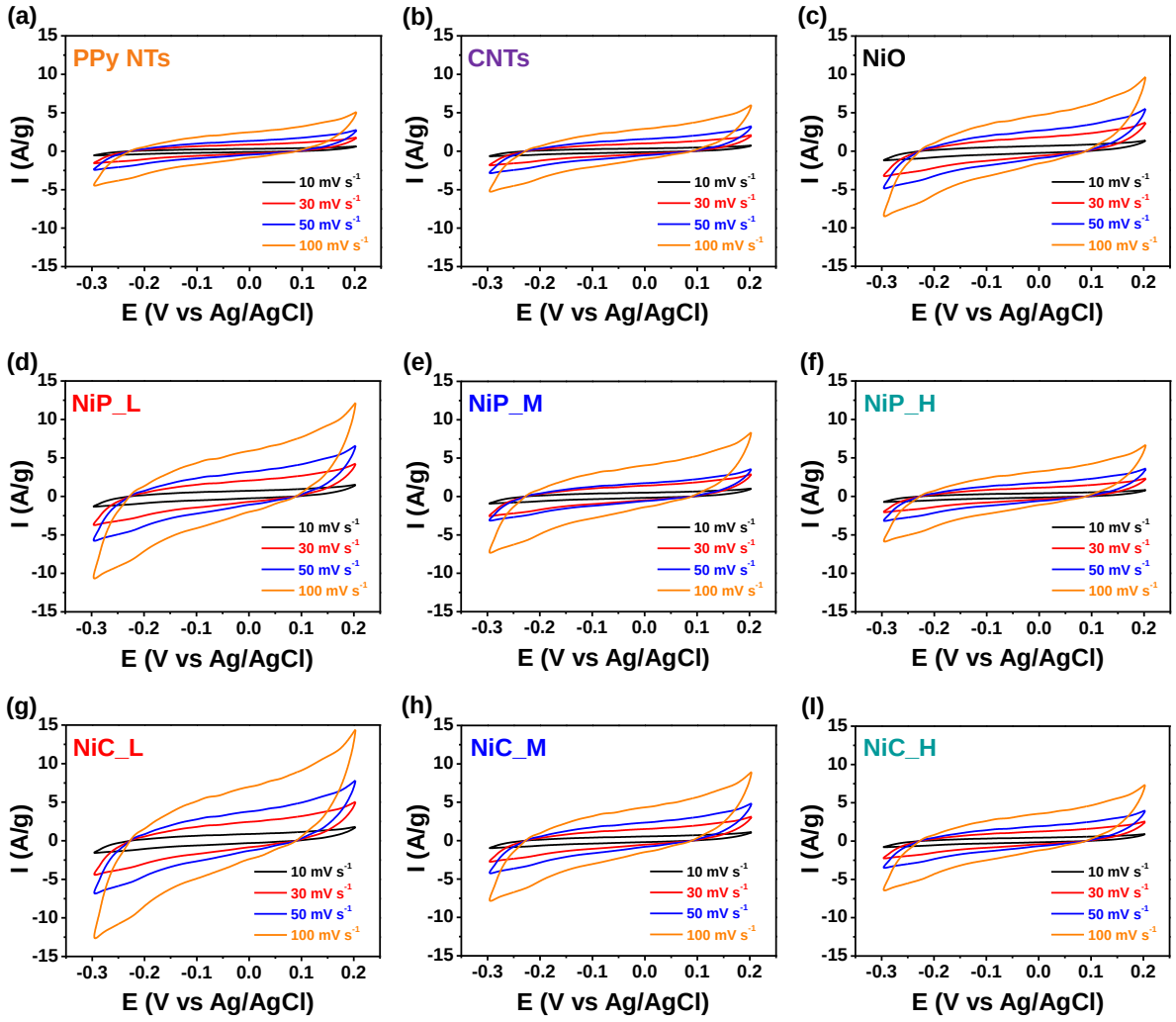

Figure S5. CV curves with various scan rate (10 to 100 mV s^{-1}) of (a) PPy NTs, (b) CNTs, (c) pristine NiO NFs, (d) NiP_L, (e) NiP_M, (f) NiP_H, (g) NiC_L, (h) NiC_M and (i) NiC_H.

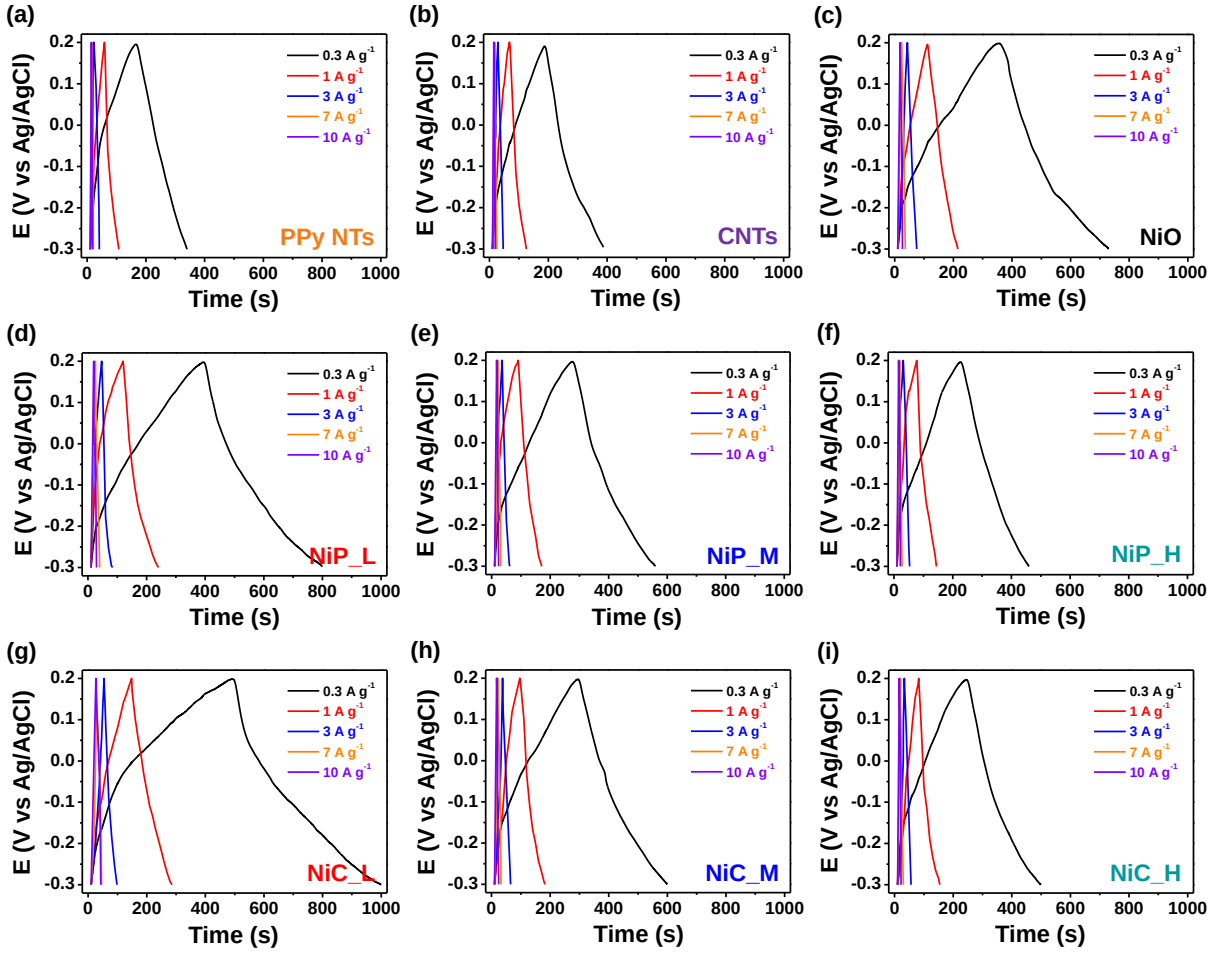

Figure S6. Galvanostatic charge/discharge with various current density (0.3 to 10 A g^{-1})of (a) PPy NTs, (b) CNTs, (c) pristine NiO NFs, (d) NiP_L, (e) NiP_M, (f) NiP_H, (g) NiC_L, (h) NiC_M and (i) NiC_H.

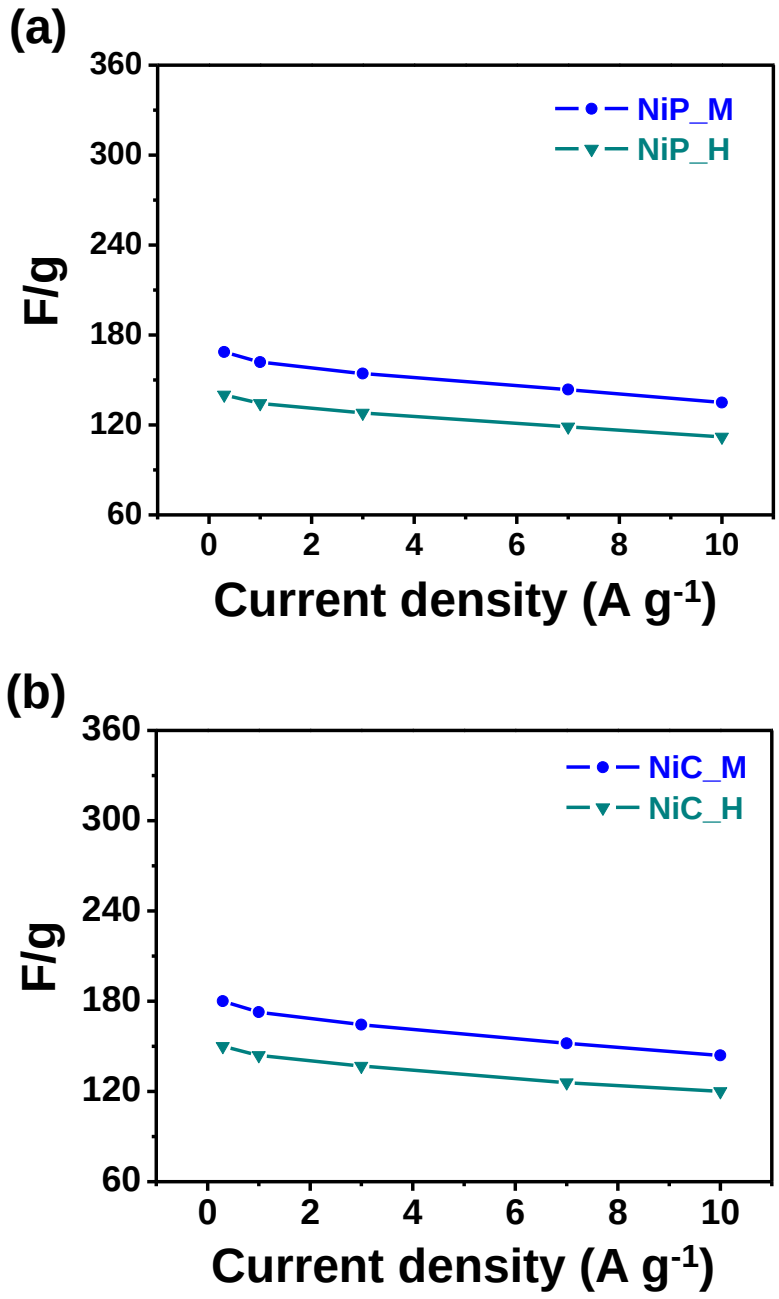

Figure S7. Specific capacitance of (a) NiP NFs with medium (blue) and high thickness (green) and (b) NiC NFs with medium (blue) and high thickness (green) at different current density (0.3 to 10 A g^{-1}).

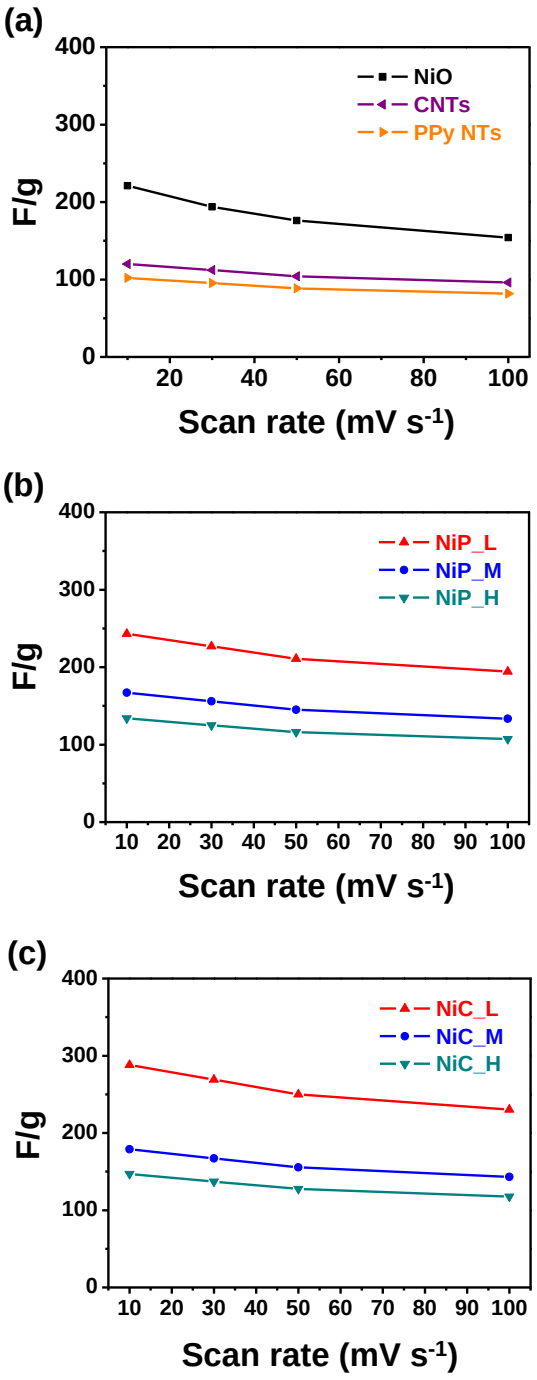

Figure S8. Specific capacitance of (a) pristine NiO (black), PPy NTs (orange), CNTs (purple), (b) NiP NFs and NiC NFs with different scan rate (10 to 100 mV s^{-1}).

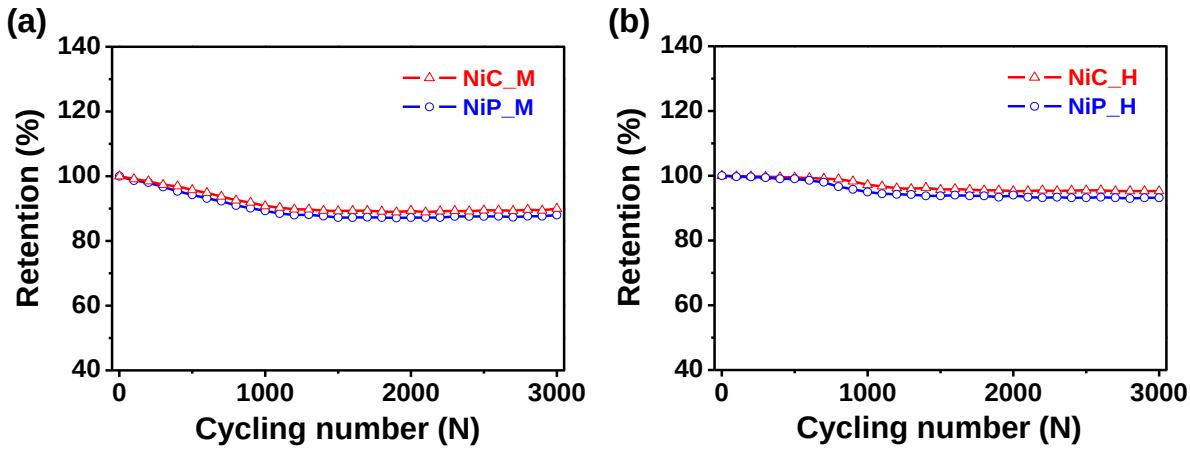

Figure S9. Long-life cyclic stability of (a) medium thickness coated of NiP NFs (blue) and NiC NFs (red) and (b) high thickness of coated NiP NFs (blue) and NiC NFs (red).