Supporting Information:

Electrochemical performance of carbon/Ni composite fibers from electrospinning as anode material for lithium ion batteries

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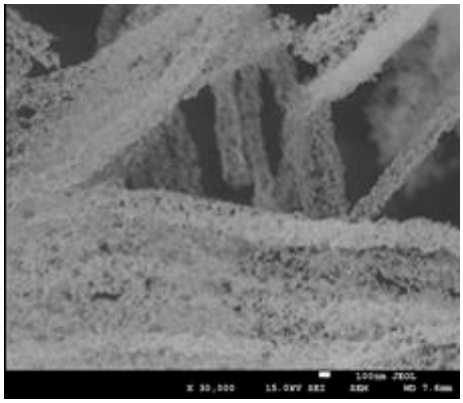

Figure S1 SEM micrograph of the prepared porous NiO fibers.

We removed the PAN in oxygen and only NiO porous fibers were obtained. After the removal of carbon, only NiO fibers were left. The pores were from the removal of carbon and the NiO was from the oxidation of the left Ni. The porous structure shows that the distribution of Ni is uniform as a network.

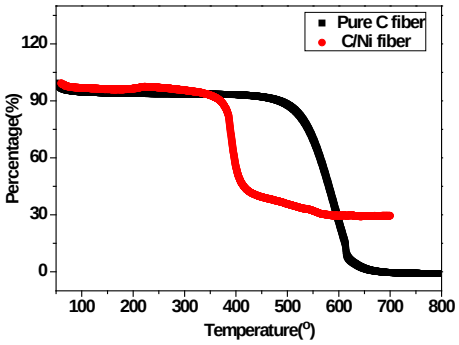

Figure S2 TGA plots of carbon fiber after annealing and pure carbon fiber.

The decomposition temperature of the carbon is greatly affected by incorporated nickel network.

Table S1 Surface (SSA) and pore parameters of carbon/Ni fiber.

Pore	SSA (m^2g^{-1})	LSA (m^2g^{-1})	S_{BJH} (m^2g^{-1})	V_{BJH} (m^3/g)	Adsorption average	V_{micro} (m^3/g)
	37.3	50.22	7.73	0.0177	9.14	0.01

Specific surface area (SSA) was calculated by the Brunauer-Emmett-Teller (BET) method.

LSA indicates Langmuir surface area.

S_{BJH} indicates is the BJH Adsorption cumulative surface area of pores between 17 Å and 3000 Å diameter calculated by the Barret, Joyner, and Halenda (BJH) method.

V_{BJH} is the BJH Adsorption cumulative volume of pores between 17 Å and 3000 Å diameter calculated by the BJH method.

V_{micro} is the micropore volume calculated by the Horvath-Kawazoe (HK)method.

It can be seen that the carbon with Ni composite fiber has a large specific surface area.

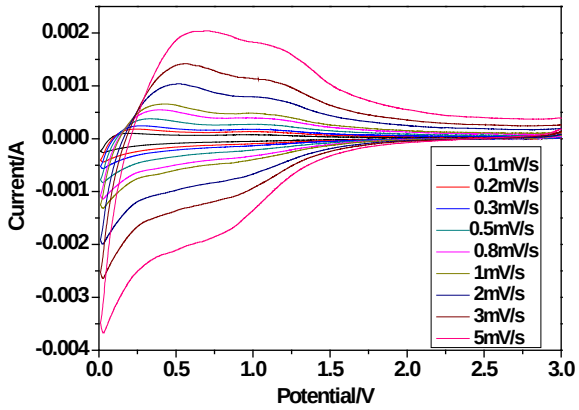

Figure S3 The CV profiles of carbon/Ni composite fiber obtained at the scan rate from 0.1 mV/s to 5 mV/s.

Even at high scan rate of 5 mV/s, the distinct redox reaction peaks at near 0.5 V corresponding to the intercalation/deintercalation of Li^+ into/from the carbon electrode are still well maintained, demonstrating fast Li-storage capability.