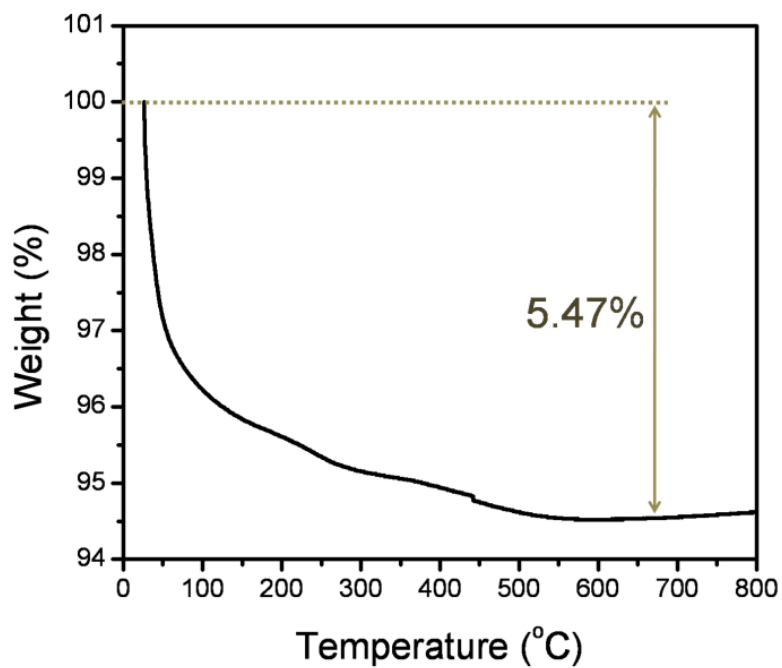Supporting Information:

Facile synthesis of nanostructural carbon nanotubes/iron oxide hybrids for lithium-ion battery anodes
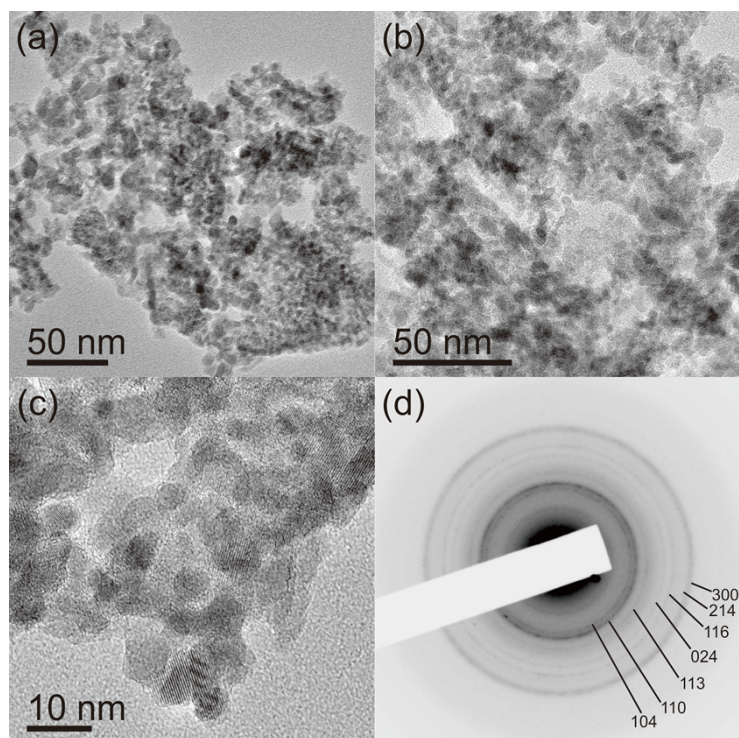
Seung-Ho Yu,[abc‡] Xiaohui Guo,[d‡] Daishun Ling,[ab‡] Dong Young Chung,[ab] Aihua Jin,[ab] Mohammadreza Shokouhimehr,[ab] Taeghwan Hyeon,*[ab] and Yung-Eun Sung*[ab]

**Fig. S1** Large scale synthesis of carbon nanotubes/iron oxide hybrids (CNIOHs).

Fig. S2 Thermogravimetric analysis of the iron (II) oxalate dehydrate precursor in the atmospheres with a heating rate of 5 °C/min.

Fig. S3 Structural analysis for iron oxide nanoparticles formed via strong ultrasonic treatment for 0.5 h; (a and b) different magnifications TEM images; (c) HRTEM image; (d) Selected area electron diffraction.
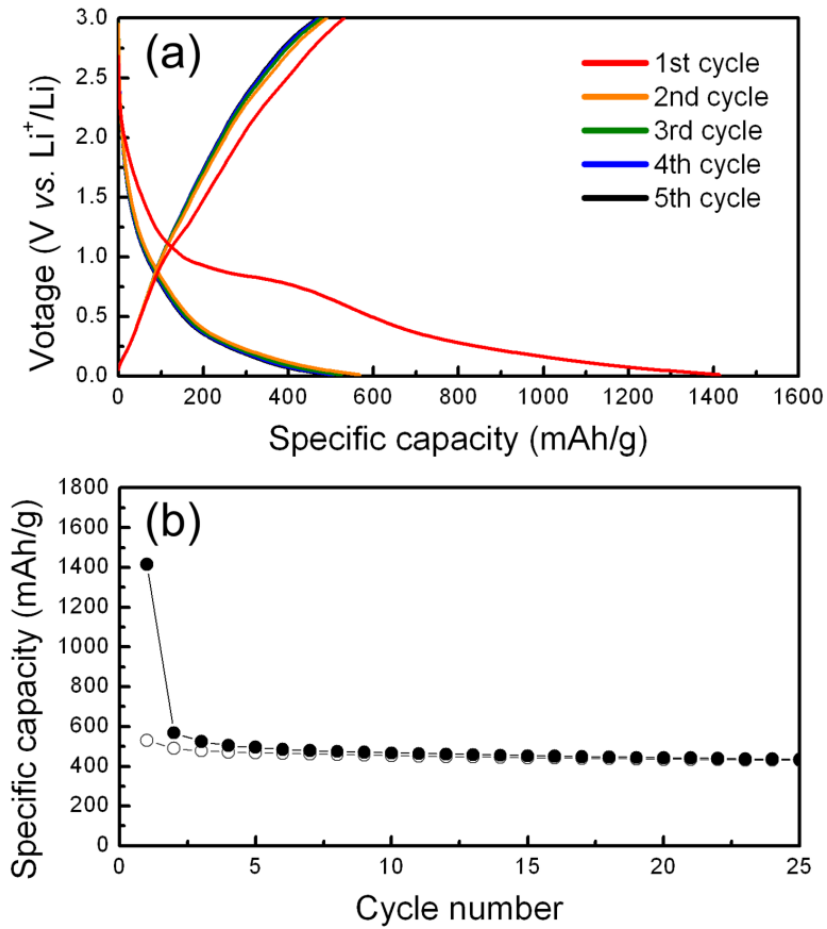
Fig. S4 (a) The charge-discharge voltage profiles of SWCNT for initial 5 cycles. (b) Cycle performance of SWCNT at a current density of 200 mA/g.
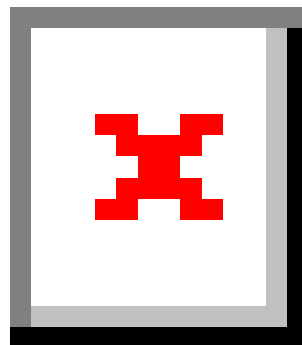
Fig. S5 (a) SEM image of CHIONs-3 after 30 cycles.

Table S1. Electrochemical properties of Fe_2O_3 or Fe_2O_3/carbon nanotube composites for lithium-ion batteries.

Samples	Electrochemical properties	Reference
α-Fe_2O_3	662 mAh/g (100th cycle, 200 mA/g)	[34]
α-Fe_2O_3	710 mAh/g (100th cycle, 200 mA/g)	[35]
α-Fe_2O_3	680 mAh/g (80th cycle, 65 mA/g)	[36]
α-Fe_2O_3/CNT	800 mAh/g (100th cycle, 500 mA/g)	[17]
Fe_2O_3/CNT	619 mAh/g (80th cycle, 50 mA/g)	[37]
Fe_2O_3/MWCNT	515 mAh/g (50th cycle, 100 mA/g)	[38]
α-Fe_2O_3/SWCNT (CHIONs-3)	1179 mAh/g (80th cycle, 200 mA/g)	this work