Supporting Information

A novel 3D Si/TiO$_2$-Ti$_2$O$_3$ nanorod arrays composite used as anode material for lithium ion batteries

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Figure S1. Charge-discharge curves of (a) Si NRs and (b) Si/TiO$_2$-Ti$_2$O$_3$ NRs during the 1$^{st}$, 2$^{nd}$, 5$^{th}$ and 10$^{th}$ cycle under a current density of 20 $\mu$A cm$^{-2}$ after a galvanostatic discharge activation process for 24 h in the first cycle.
Figure S2. The impedance spectra of Si/TiO$_2$-$\text{Ti}_2\text{O}_3$ NRs compared with that in bare Si NRs under amplitude of 5.0 mV and with a frequency scan from 100 k to 0.1 Hz.
Figure S3. (a) SEM image, (b) High magnification SEM image, and (c) XRD pattern of Si/TiO$_2$-Ti$_2$O$_3$ NRs anode after CV measurement for ten discharge/charge cycles (within the voltage range of 0.01 to 2.5 V at the scan rate of 0.1 mV s$^{-1}$).