

ADVANCED MATERIALS

Supporting Information

for *Adv. Mater.*, DOI: 10.1002/adma.201402484

A Single Rolled-Up Si Tube Battery for the Study of
Electrochemical Kinetics, Electrical Conductivity, and
Structural Integrity

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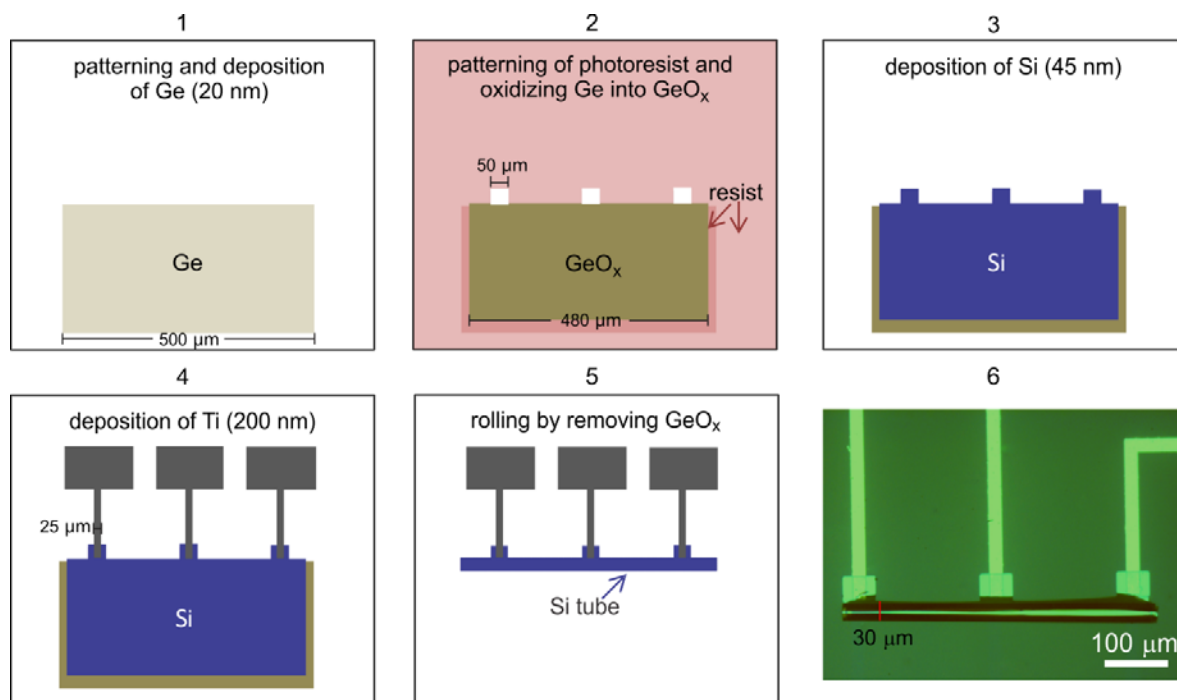
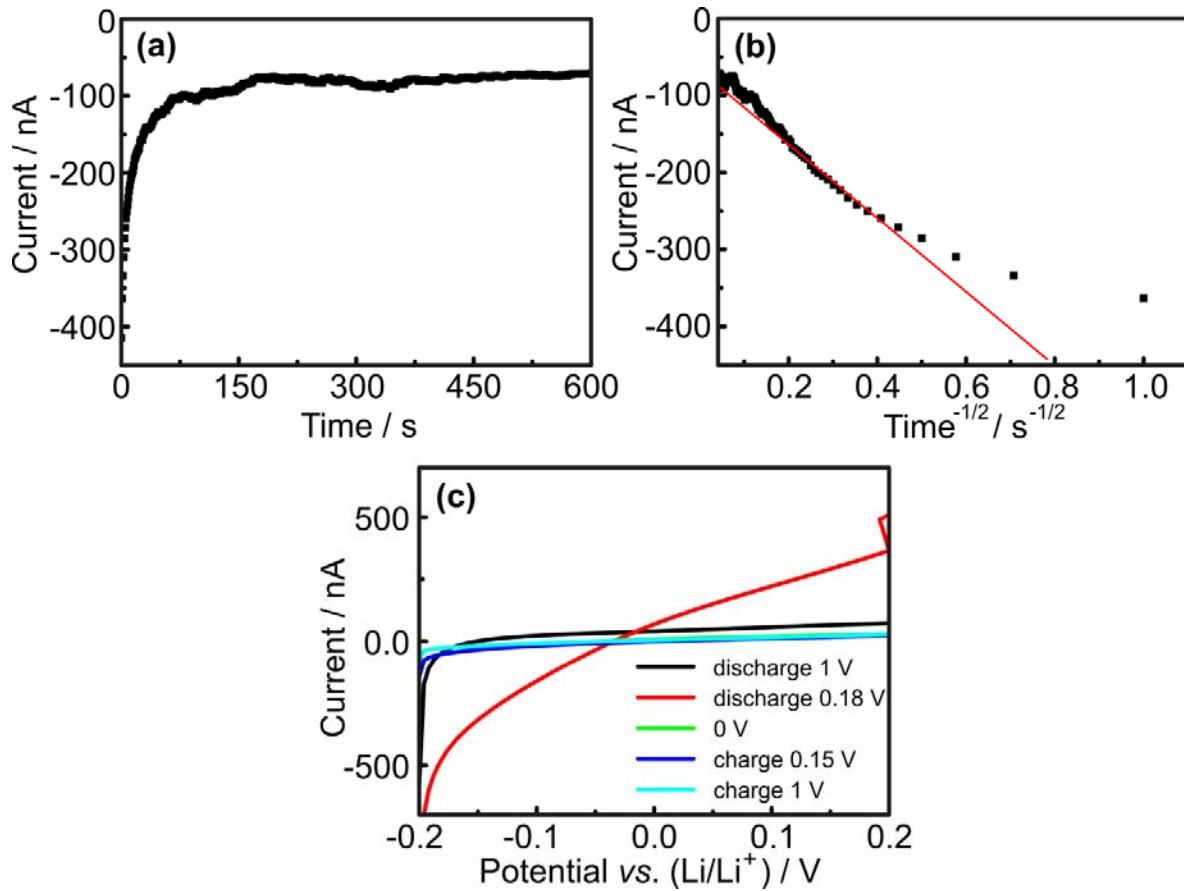


Figure S1. Schematic depicting procedures for rolling up a single Si tube (1) patterning and deposition of Ge as sacrificial layer, (2) patterning of 2nd photoresist and oxidizing Ge layer into GeO_x by oxygen plasma treatment, (3) deposition of Si layer, (4) deposition of Ti contacts, (5) rolling the tube by removing GeO_x, (6) a real optical micrograph of a single rolled-up Si tube.



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Figure S2. (a) The current-time response (b) Cottrell plot of the current-time response of a single rolled-up Si tube after the potential was stepped from 0.200 to 0.180 V vs. Li/Li⁺. (c) Typical I-V curves of the single Si tube under various lithiation/delithiation states.