Ionic Liquid Electrodeposition of Strain-Released Gemanium

Nanowires as Stable Anodes for Lithium Ion Batteries

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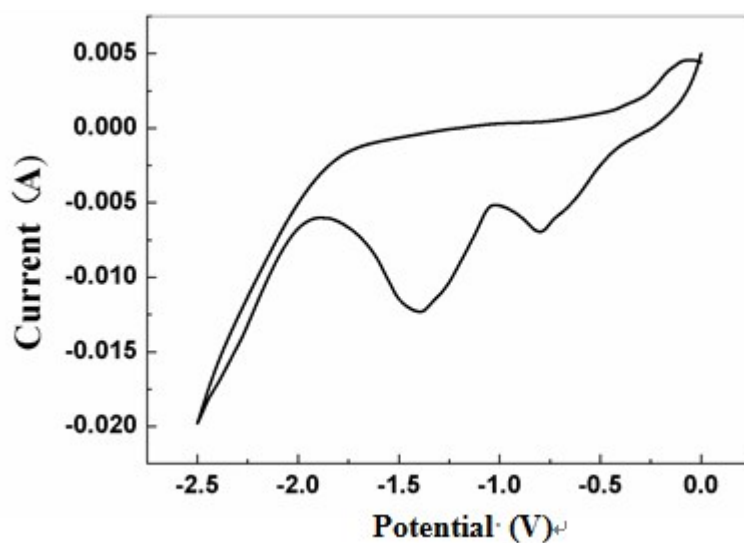
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Fig. S1. Cyclic voltammogram for the electrodeposition of Ge from 1.5 M $AlCl_3$ + 0.1 M $GeCl_4$ /[EMIm]Tf_2N solution on Ni foil. Scan rate: 10 mV s^{-1}. At room temperature.

Fig. S2. XPS Ge 3d spectrum of Ge NWs.

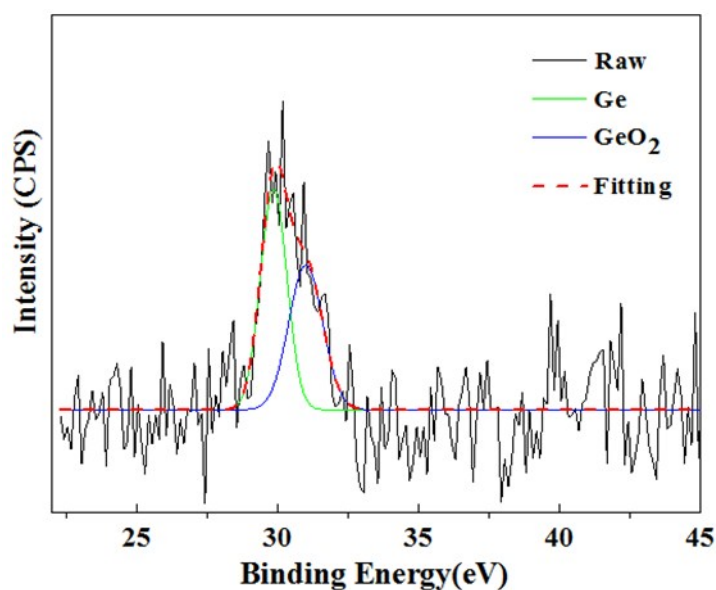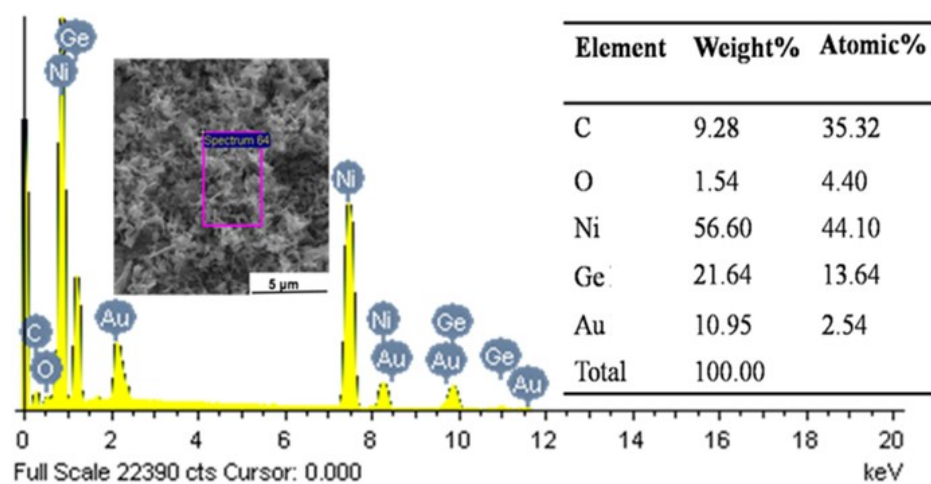| Element	Weight%	Atomic%
C	9.28	35.32
O	1.54	4.40
Ni	56.60	44.10
Ge	21.64	13.64
Au	10.95	2.54
Total	100.00	

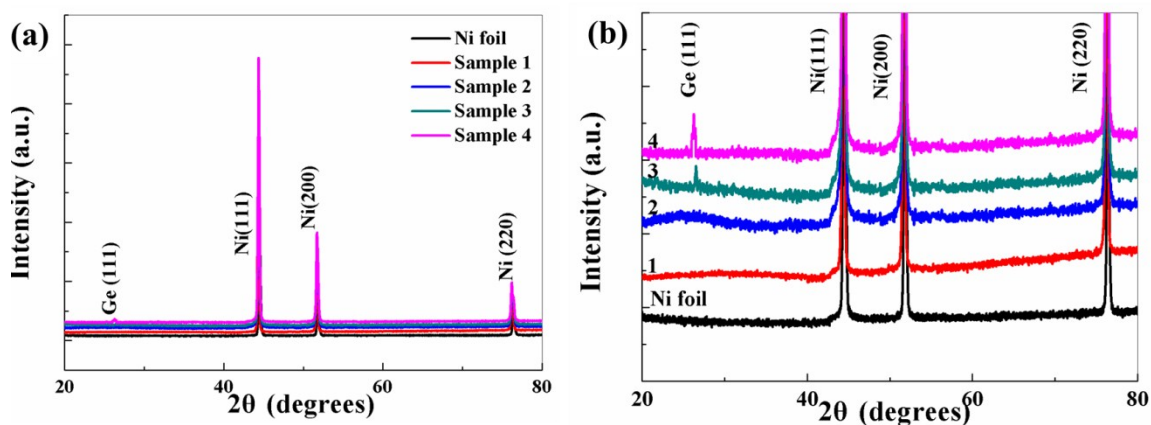Fig. S3. EDS spectrum of the Ge NWs.

Fig. S4 (a) The XRD patterns of sample 1-4 on Ni foil, (b) the enlargements of the XRD patterns of samples 1-4.
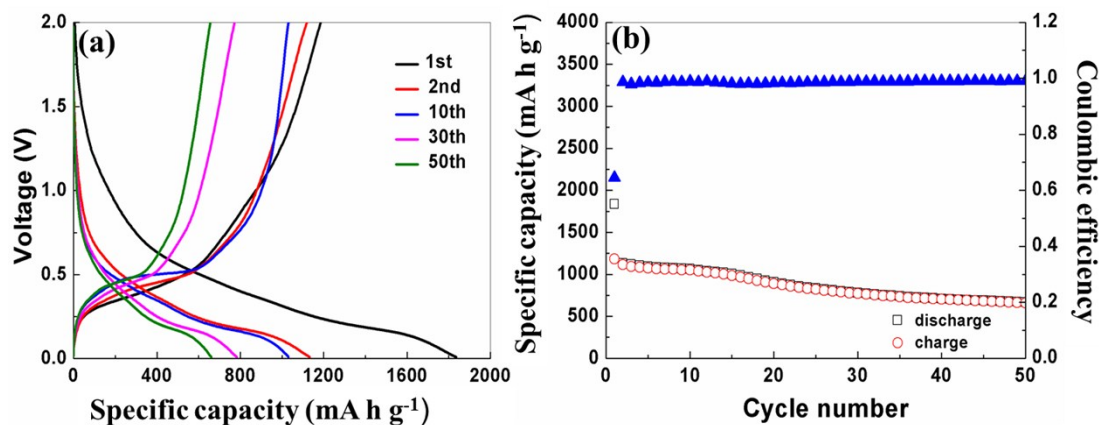

Fig.S5. Electrochemical performance of sample 1 at 0.1C (a) Galvanostatic charge-discharge profiles for different cycles, (b) Cycling performance and Coulombic efficiency.
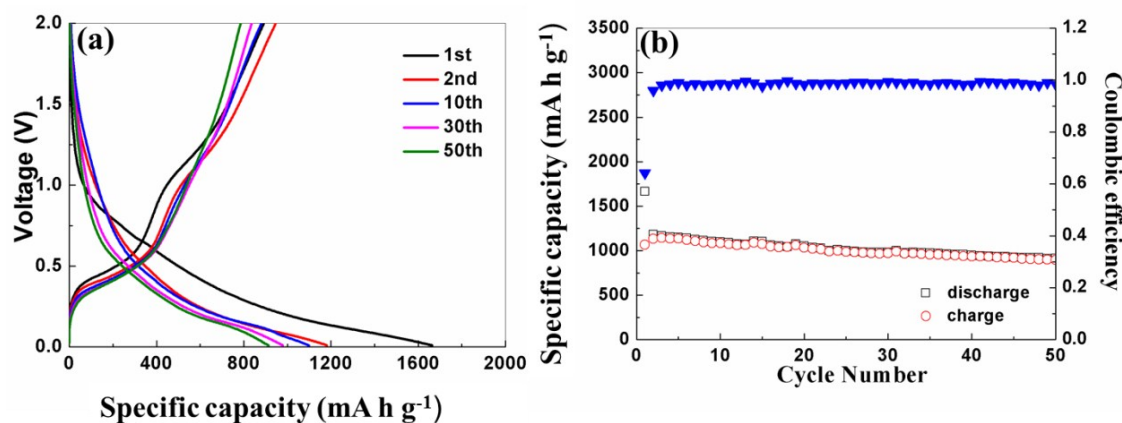
Fig.S6. Electrochemical performance of sample 2 at 0.1C (a) Galvanostatic charge-discharge profiles for different cycles, (b) Cycling performance and Coulombic efficiency.
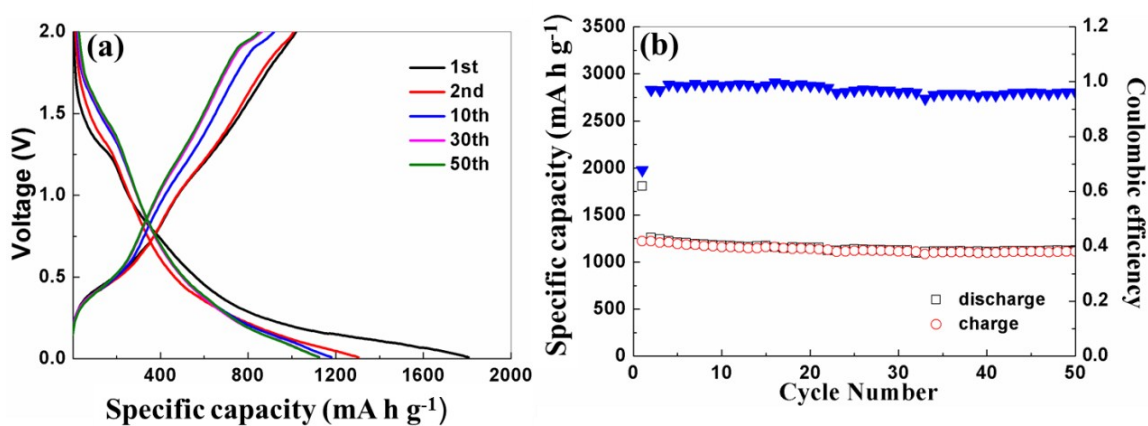

Fig.S7. Electrochemical performance of sample 3 at 0.1C (a) Galvanostatic charge-discharge profiles for different cycles, (b) Cycling performance and Coulombic efficiency.
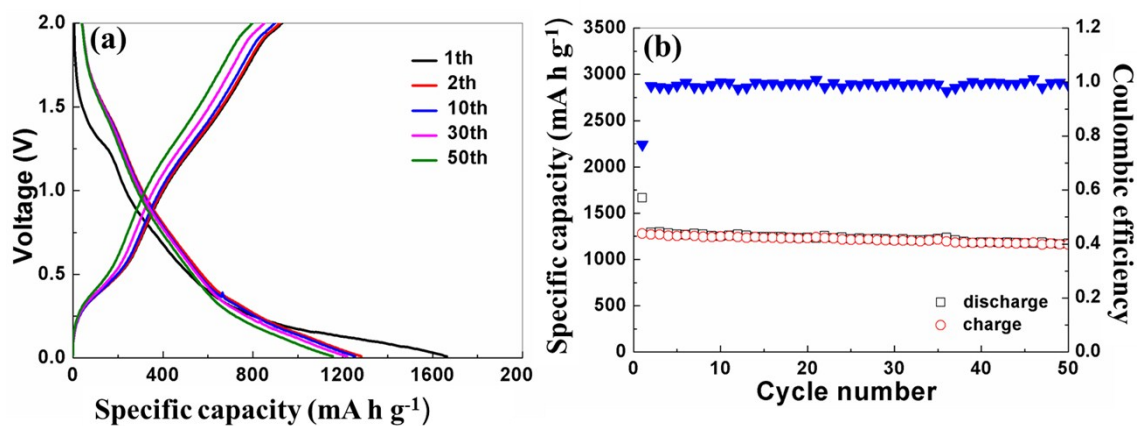

Fig.S8. Electrochemical performance of sample 4 at 0.1C (a) Galvanostatic charge-discharge profiles for different cycles, (b) Cycling performance and Coulombic efficiency.