Electronic Supplementary Material (ESI) for Green Chemistry.

Supporting Information

An Environment-Friendly Approach to Produce Nanostructured Germanium Anodes for Lithium-Ion Batteries

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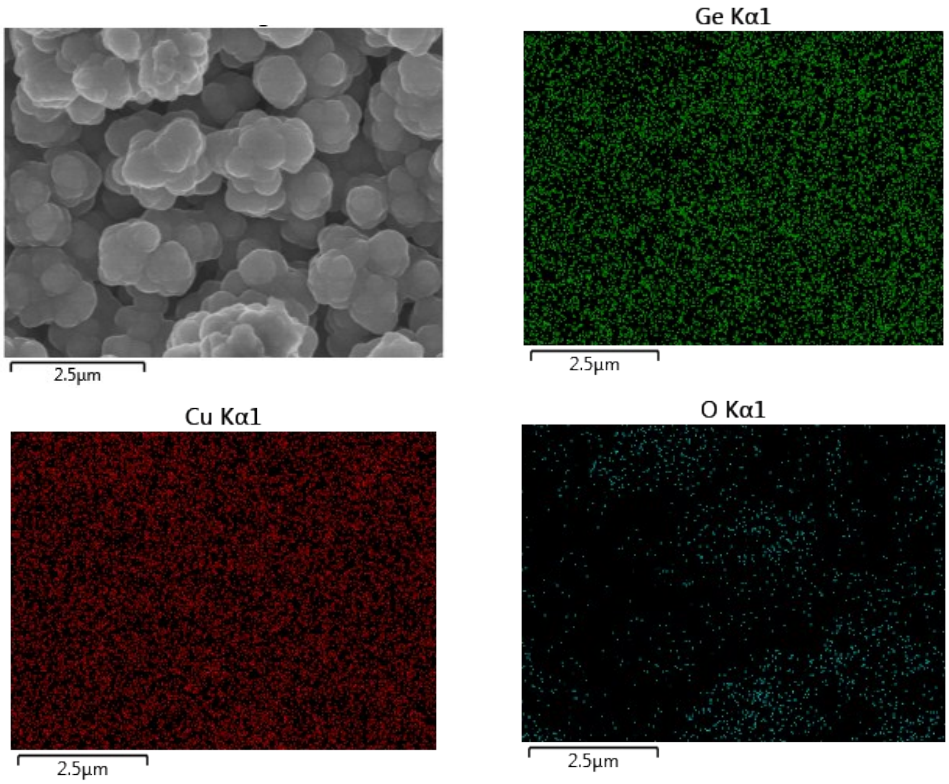

Fig. S1. A SEM image and an EDS elemental mapping of electrodeposited germanium coating on copper foil.

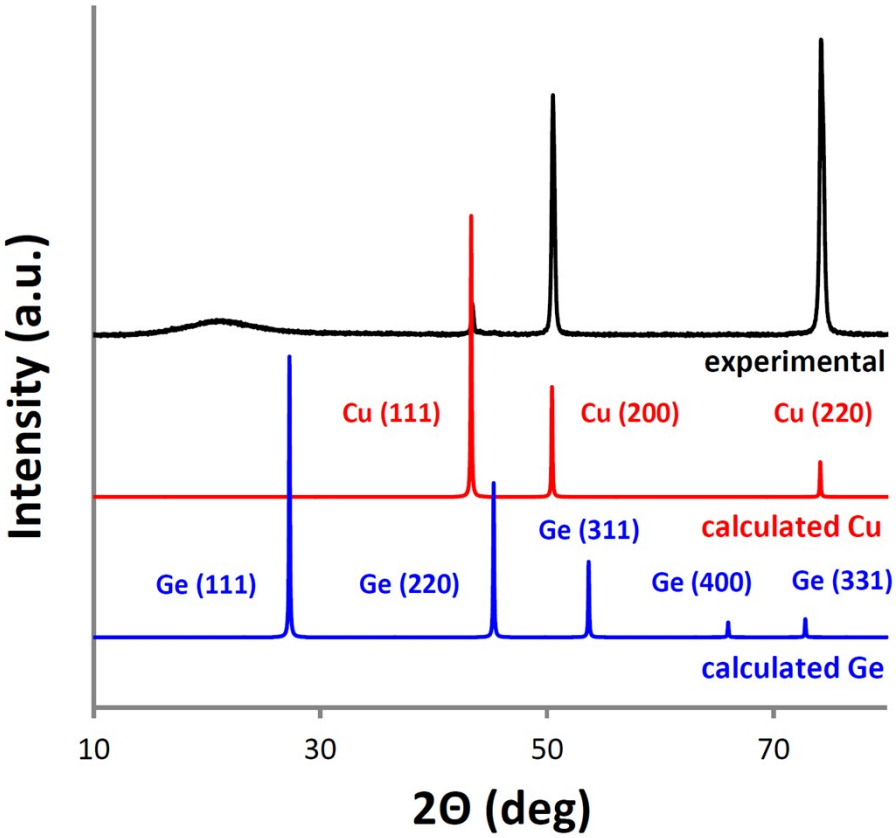

Fig. S2. XRD pattern of electrodeposited germanium coating on copper foil in comparison with calculated diffractograms of Ge and Cu.

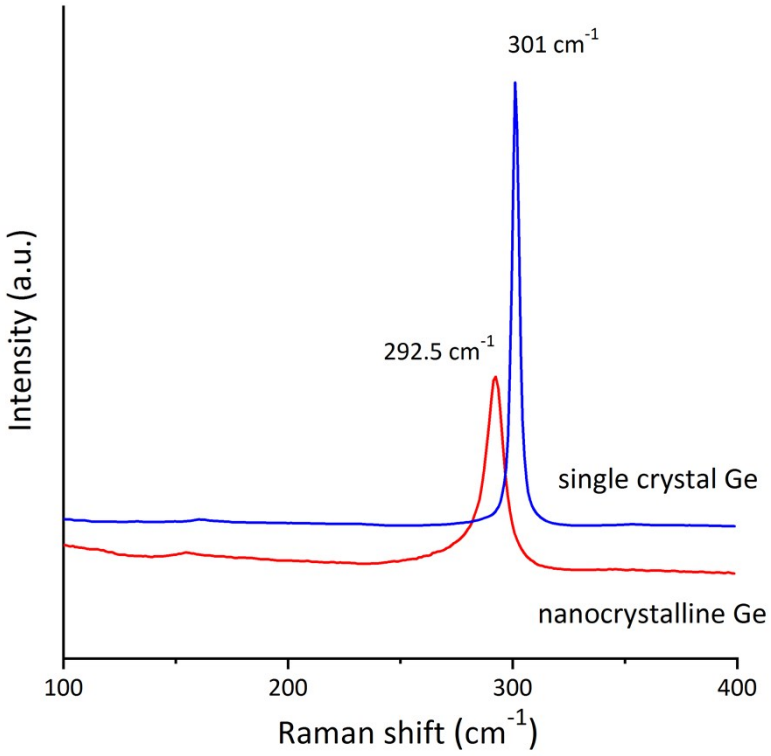

Fig. S3. Raman spectra of electrodeposited germanium in comparison with single crystal Ge (He-Ne laser, 632.8 nm, power 1.25 mW).

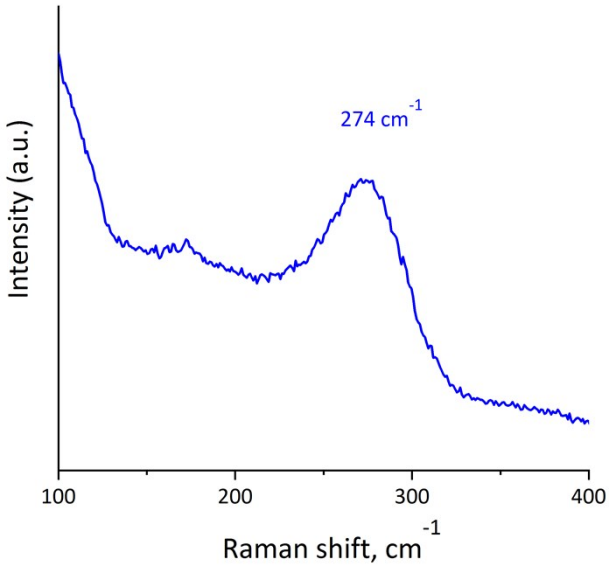

Fig. S4. Raman spectra of electrodeposited germanium after 5 cycles of CV (Fig. 4 of main article text)

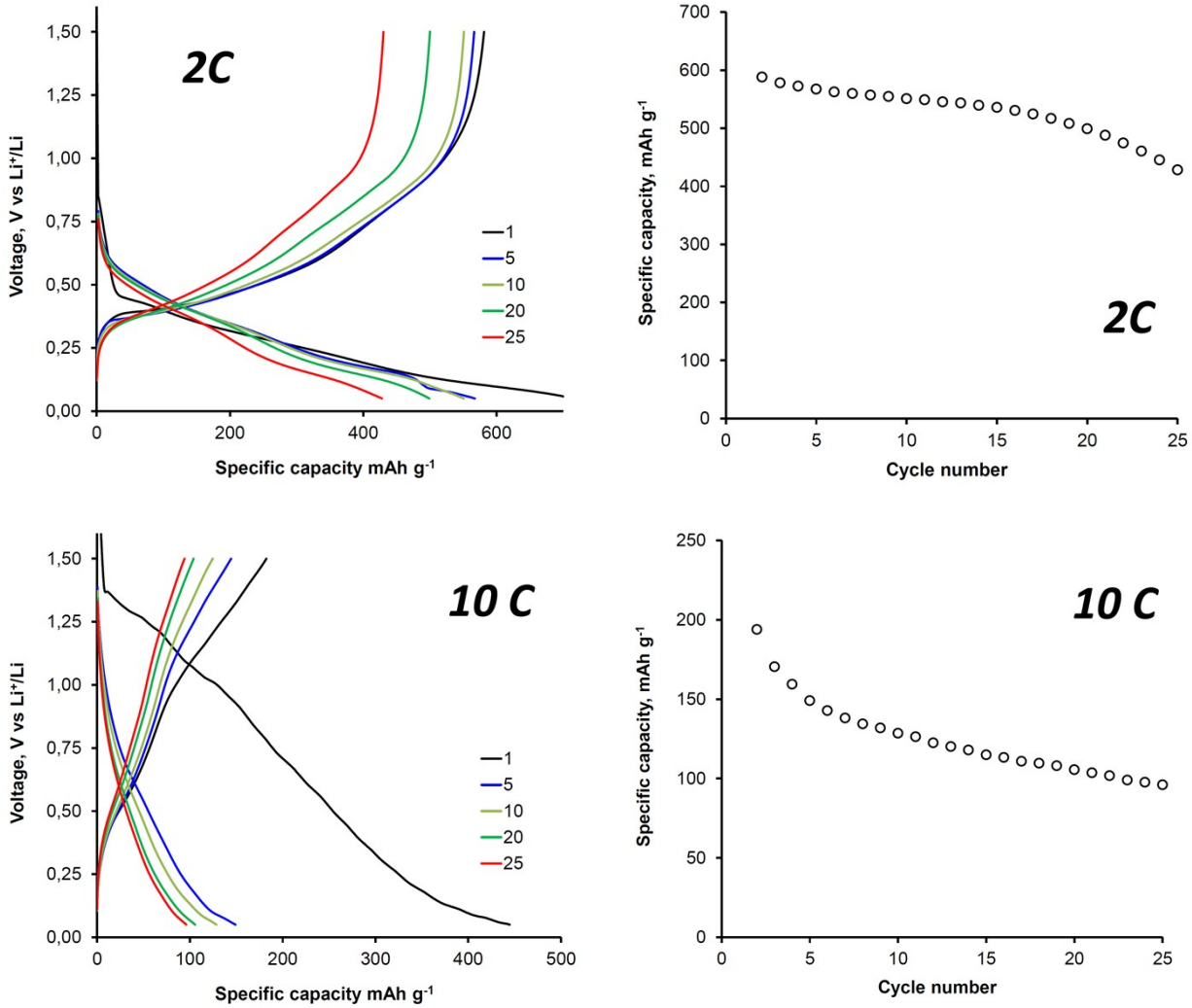

Fig. S5. Evolution of the cell capacity while cycling the Ge/Li half cells (a) and the corresponding charge-discharge characteristics (b) at 2C and 10C current rates.

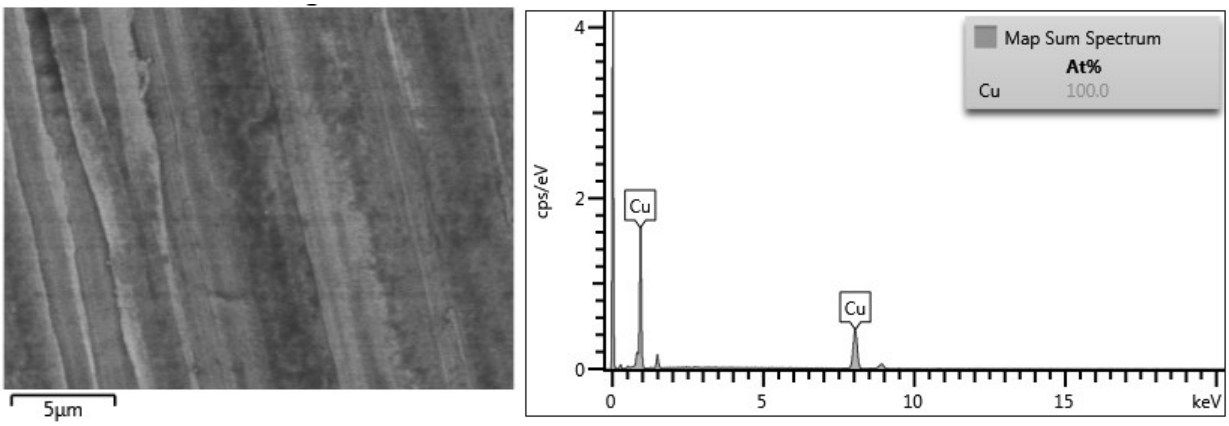

Fig. S6. Microphotograph and EDS analysis data for copper surface before electrodeposition.

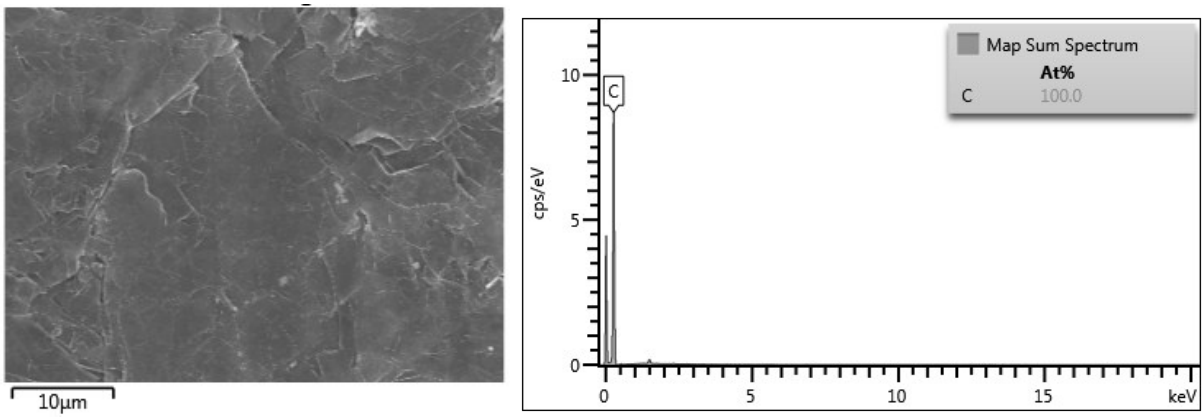

Fig. S7. Microphotograph and EDS analysis data for graphite (anode) surface.

Fig. S8. *(left)* Electrolytic cell design. The anode wall is removed to show the electrolyte compartment and copper foil cathode coated with germanium nanoparticles after electrolysis. *(right)* Sample of fabricated half cell.