Supporting Information

Engineered Si Sandwich Electrode: Si Nanoparticles/Graphite Sheet Hybrid on Ni Foam for Next-Generation High-Performance Lithium-Ion Batteries

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Figure S1. Optical micrograph showing sandwich Ni/Si-NPs/GC hybrid electrode, the electrode material sticks tightly to the Ni foam surface such that bending does not cause exfoliation. This reveals sufficient mechanical stability to sustain handling during cell fabrication.

Figure S2. XRD pattern of the as-received Si-NPs.

Figure S3. XPS spectra of sandwich Ni/Si-NPs/GC hybrid electrode: (a) Ni 2p, (b) C 1s.

Figure S4. FE-SEM images of as-received Ni foam (a) and Si-NPs (b). TEM (c) and HR-TEM images (d) of the as-received Si-NPs. FE-SEM images of Ni foam covered with Si-NPs at low (e) and high (f) magnifications.

Figure S5. Different reversible capacities (a) and areal capacity (b) of the sandwich Ni/Si-NPs/GC electrodes as a function of the active material loading.

Figure S6. FE-SEM images of Ni/Si-NPs/GC electrodes after 1st (a) and 350th cycles (b).