SUPPORTING INFORMATION

New Journal of Chemistry

Vesicular hydrogen silsesquioxane-mediated synthesis of nanocrystalline silicon dispersed in a mesoporous silica/suboxide matrix, with potential for electrochemical applications

Ferenc Somodi, Chang Sun Kong, Jerome C. Santos, and Daniel E. Morse,

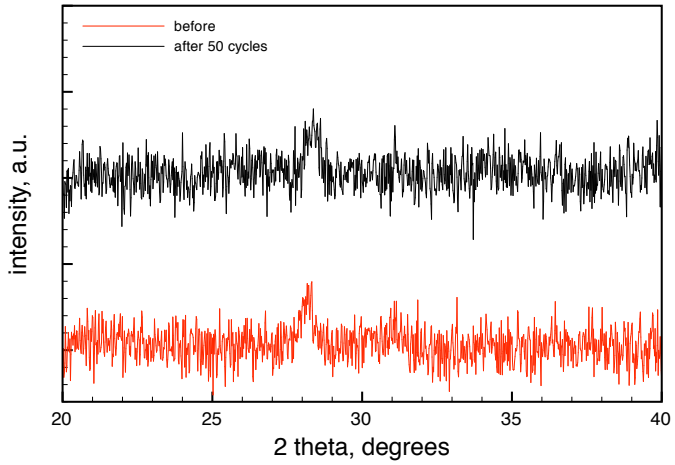

Figure S1. XRD pattern of anode coating before and after 50 charge-discharge cycles. Active material: $(HSiO_{1.5})_n$ gel pyrolized at 1400 °C in H2/Ar atmosphere. Binder CMC, weight ratio of active material:carbon black:binder was 80:15:5.

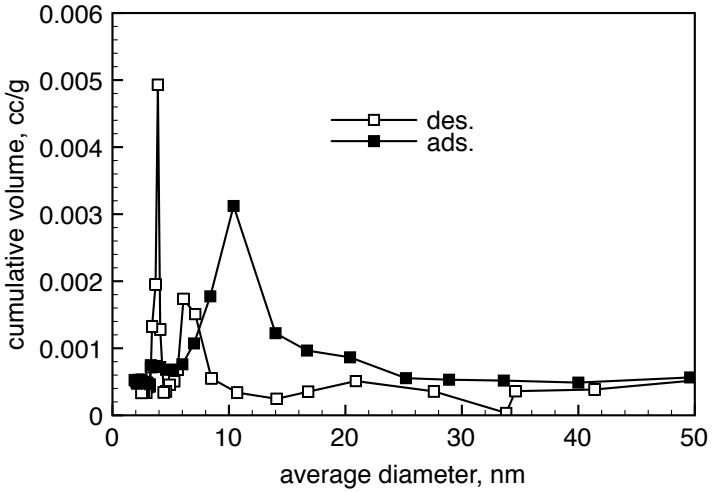

Figure S2. Pore size distribution calculated from the adsorption and desorption branches after pyrolysis at 1000 °C using the Barrett-Joyner-Halenda method.

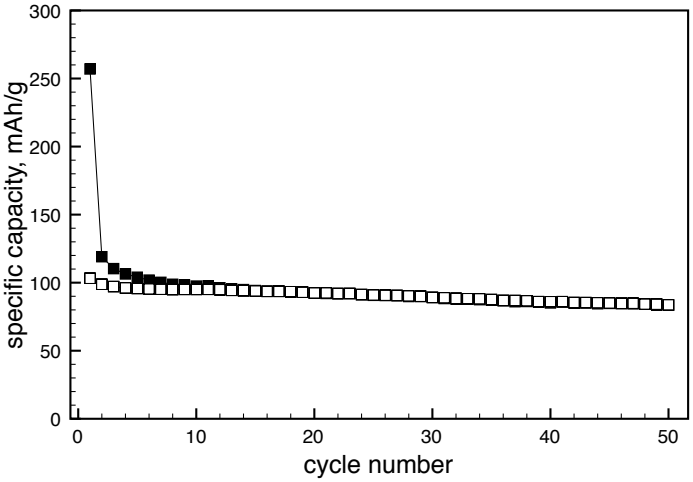

Figure S3. Specific discharge (solid) and charge (empty) capacities of Li-ion battery half-cell using anode comprised of the $(HSiO_{1.5})_n$ gel calcined at 550 °C in air for 6 h. The material (considered to be SiO_2 after this treatment) has the same surface area and pore structure as that produced by pyrolysis at 700 °C in H_2/Ar.