Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supplementary Information

Si Nanoparticles-Nested Inverse-Opal Carbon Supports for Highly Stable Lithium-Ion Battery Anodes

*Donghee Gueon†, Da-Young Kang†, Jung Sub Kim‡, Taeyong Kim‡, Joong Kee Lee‡, and Jun Hyuk Moon†,**

†Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea,

‡Energy Storage Research Center, Korea Institute of Science and Technology, Seoul, Korea

Corresponding author, E-mail: junhyuk@sogang.ac.kr

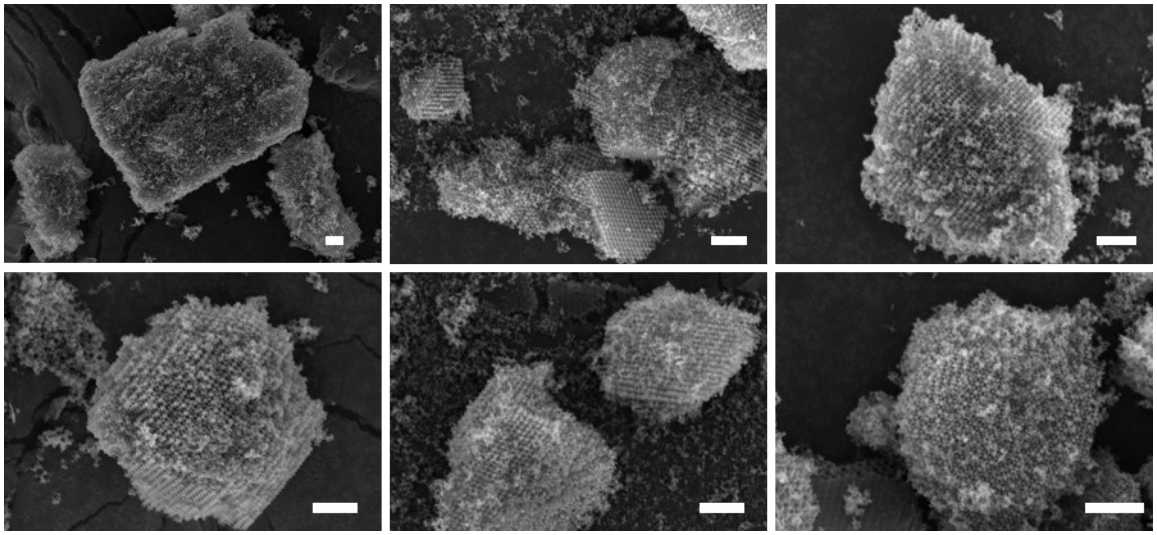

Figure S1. SEM images of IOC particles. We investigated the size of more than 20 particulate IOCs. The average size of IOCs was in the range of 15 – 60 μm.

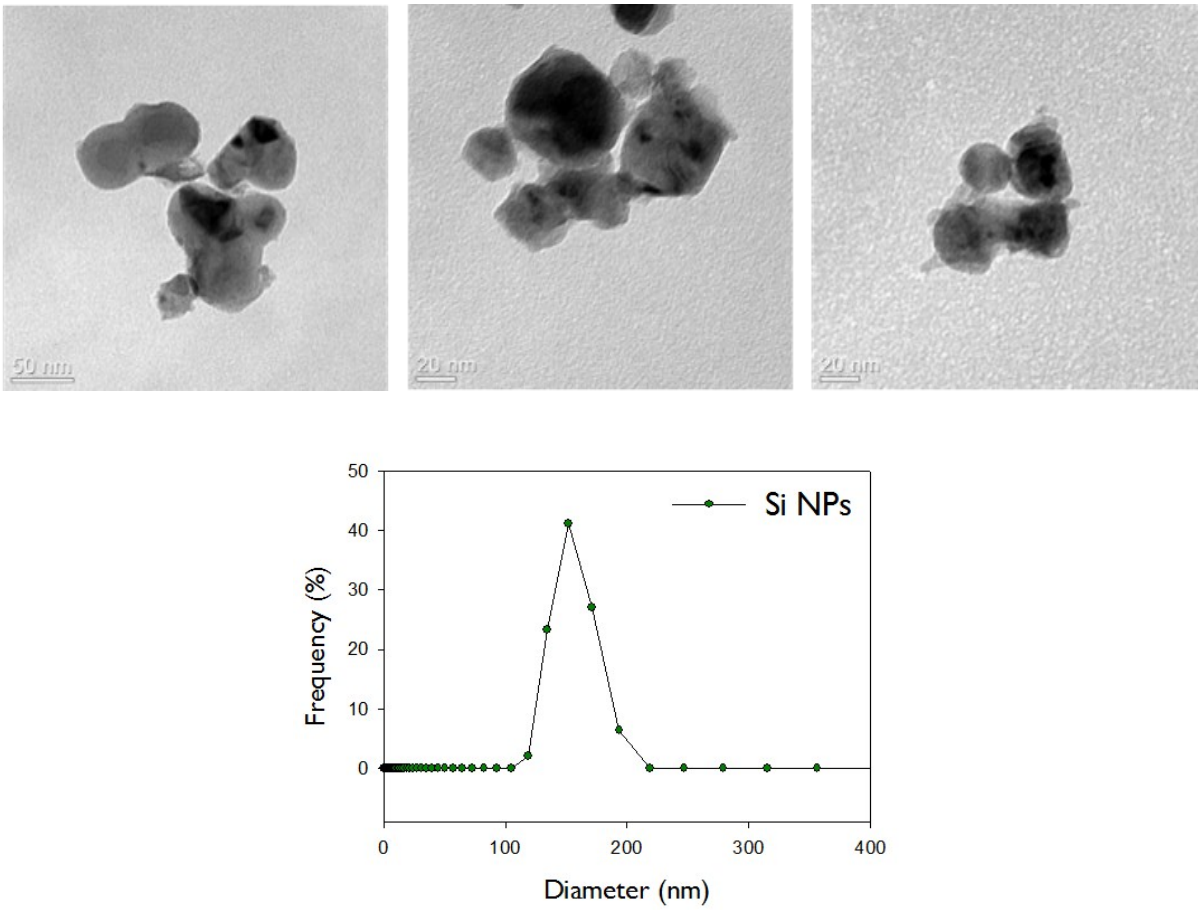

Figure S2. (above) TEM images of Si NPs. (below) Size distribution information of Si NPs.

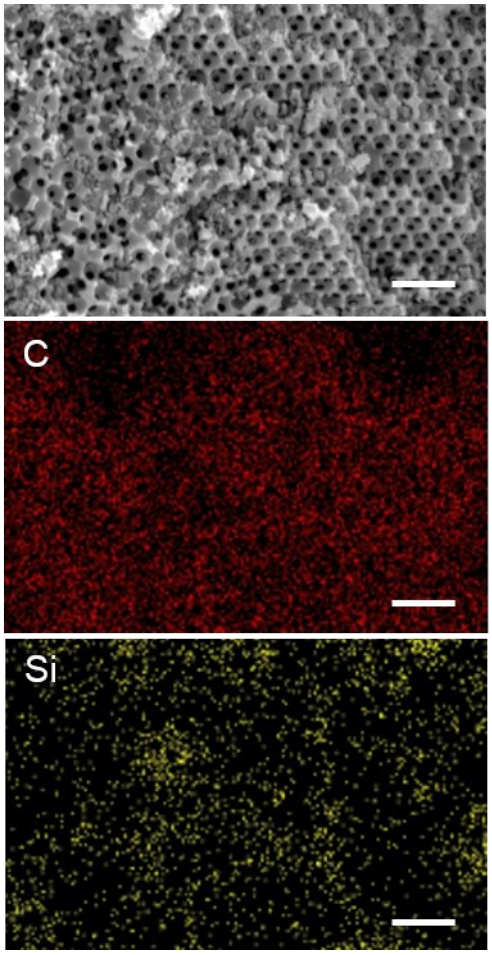

Figure S3. A low magnification SEM image of the cross-section of Si NPs/IOC particle and its elemental mapping images of C and Si. (scale bar: 5 μm)

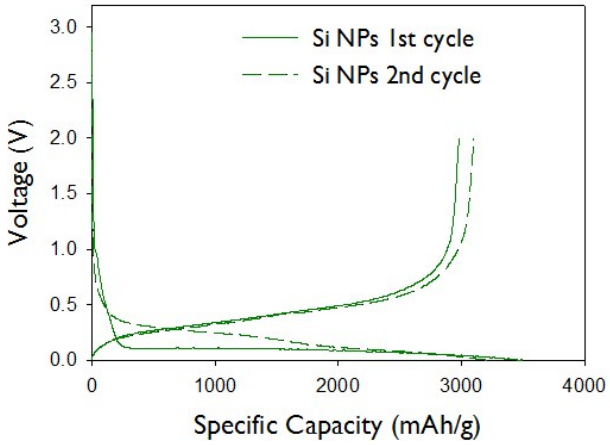

Figure S4. Voltage profiles of the Si NPs electrode for the first two cycles

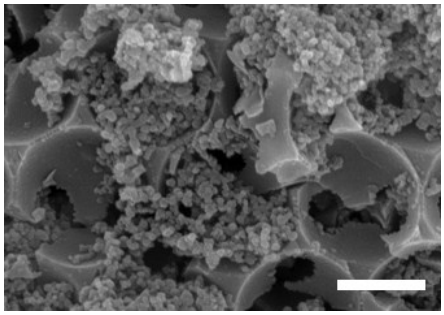

Figure S5. SEM images of 40wt% Si NPs/IOC after 50 cycles (scale bar: 1 μm)