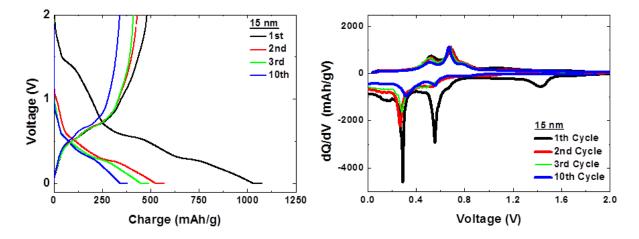
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## **Supporting Information**

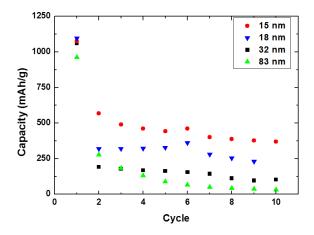
## Critical Size for the $\beta$ - to $\alpha$ -Transformation in Tin Nanoparticles after Lithium Insertion and Extraction

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**Figure 1:** Potential vs. specific capacity profiles and corresponding differential capacity plots displaying the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 10<sup>th</sup> constant-current-constant-voltage charge/discharge cycle of the 15 nm sized nanoparticle electrode.



**Figure 2:** Specific lithiation capacity vs. cycle number for the constant-current-constant-potential charge/discharge cycling of some investigated nanoparticle electrodes with different particle sizes. Potential range: 0.005 V to 2 vs. Li/Li<sup>+</sup> (0.05C Rate).