

Effect of Size and Shape on Electrochemical Performance of Nano-Silicon-Based Lithium Battery

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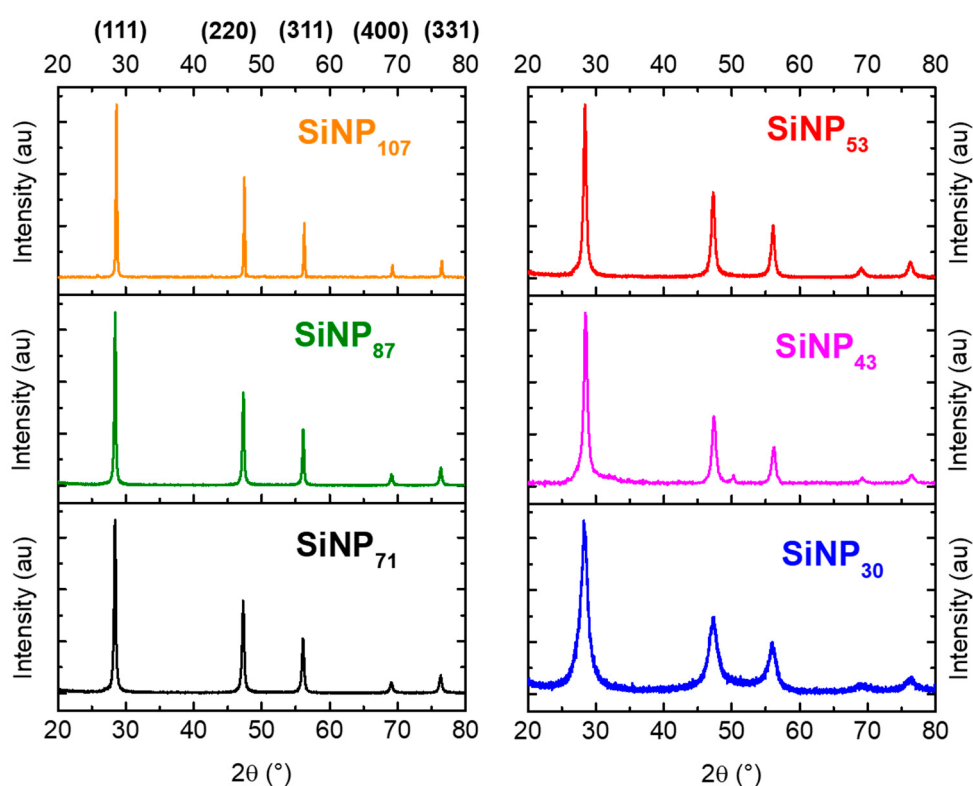


Figure 1. X-ray diffractograms of the SiNP samples.

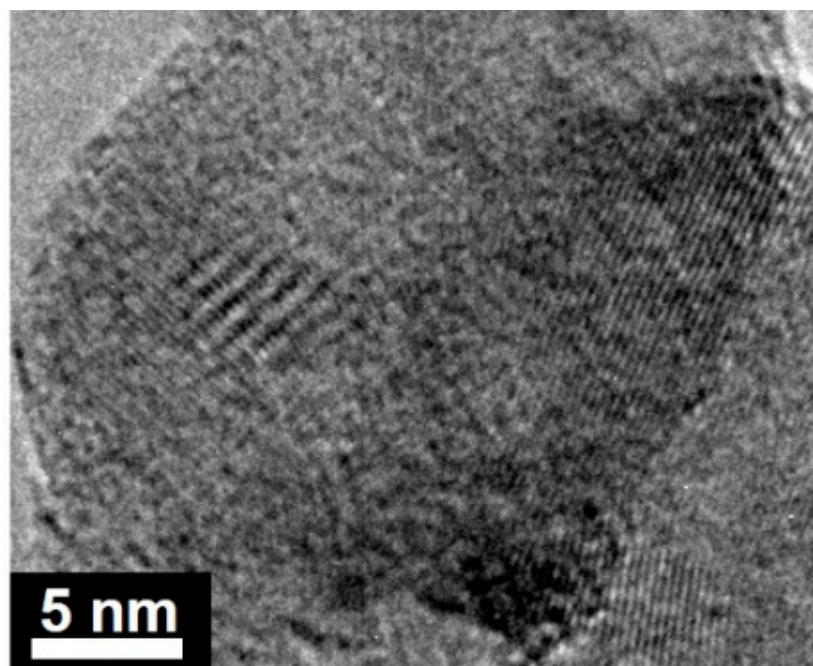


Figure 2. HRTEM images of SiNP₃₀.

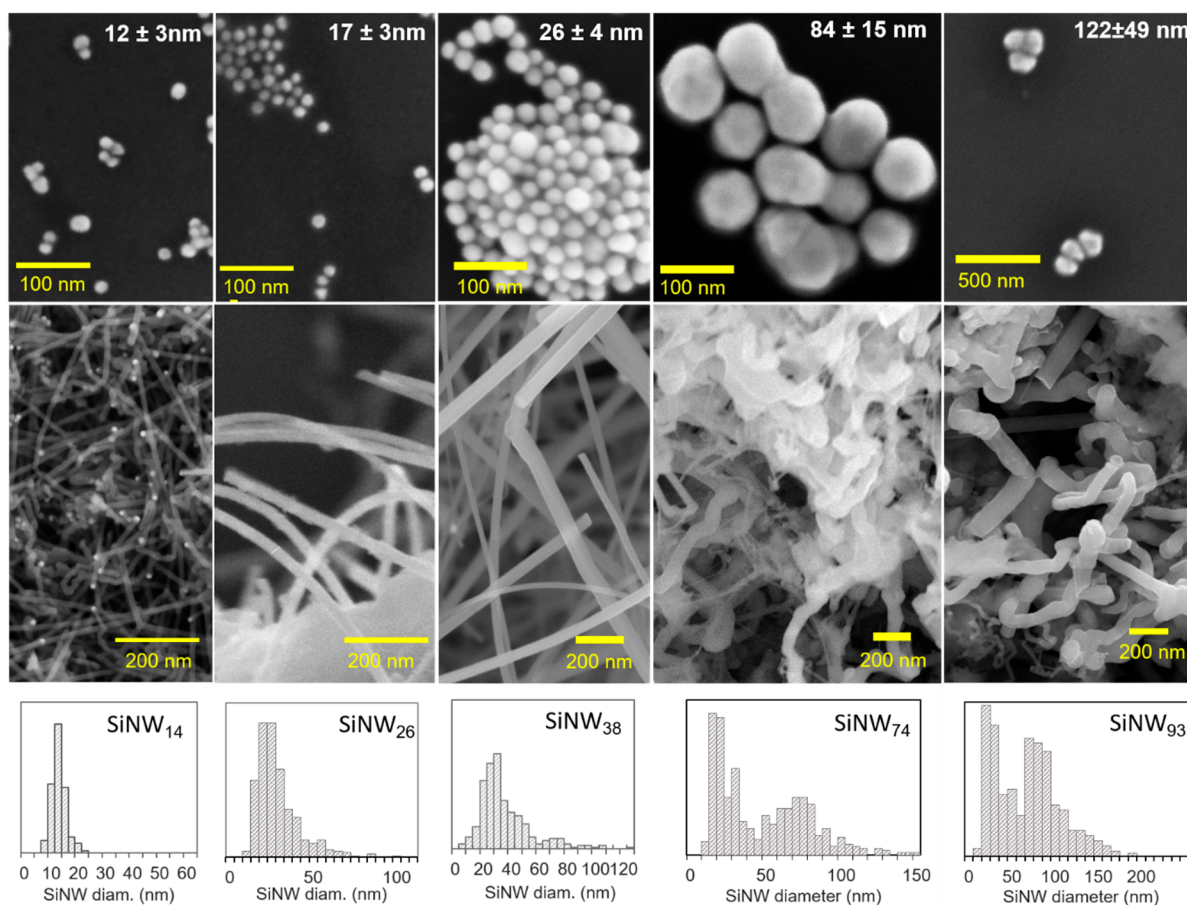


Figure 3. SEM images of the AuNP catalysts and of the SiNWs grown subsequently obtained, corresponding histograms of the SiNW diameter.

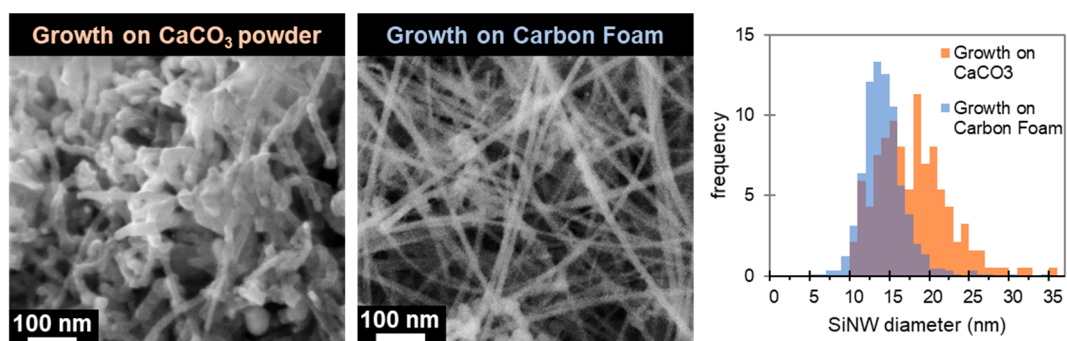


Figure 4. SEM images and corresponding diameter histogram of SiNWs grown from 12nm AuNPs on CaCO_3 nanopowder or in a 1cm^3 carbon foam cube.

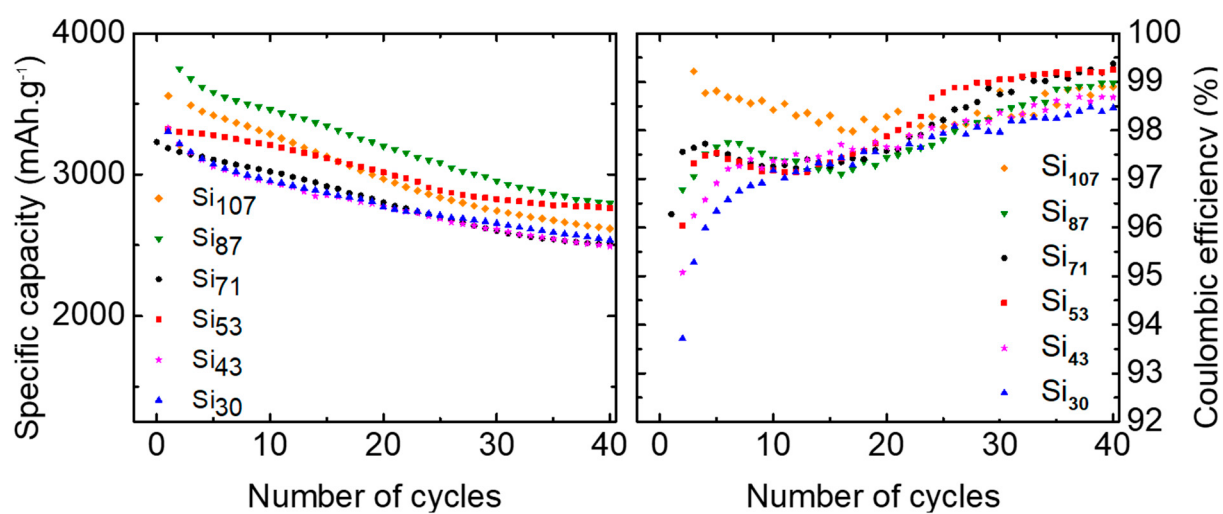


Figure S5. Specific capacity and coulombic efficiency for all SiNPs presented in Table 1.

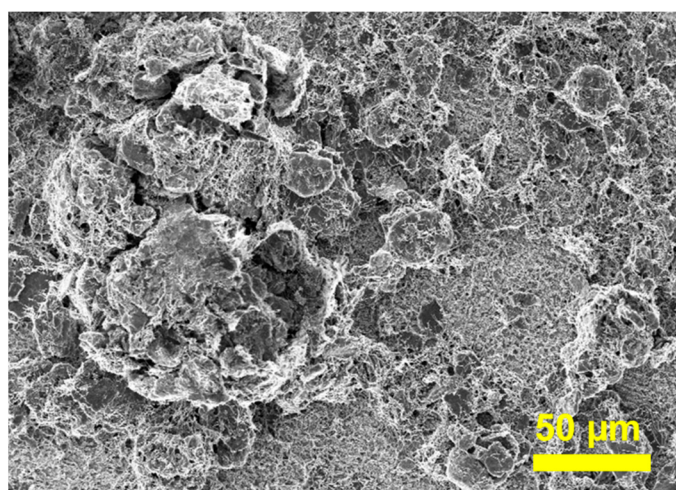


Figure 6. SEM image of an electrode with SiNWs.

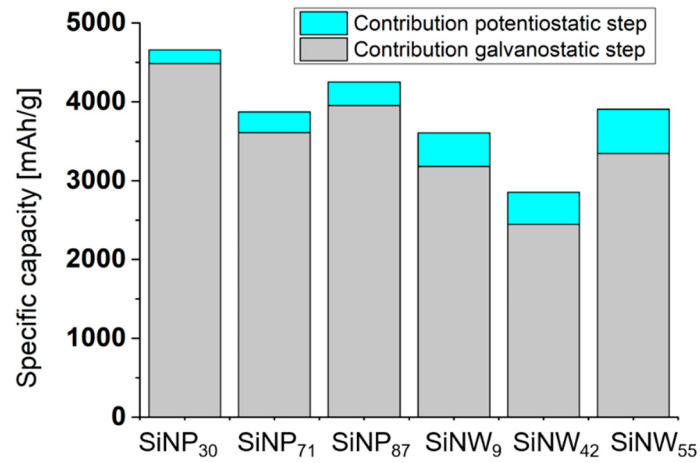


Figure 7. Specific capacity obtained in the first lithiation during the galvanostatic (grey) and the potentiostatic (light blue) steps for SiNPs and SiNWs.

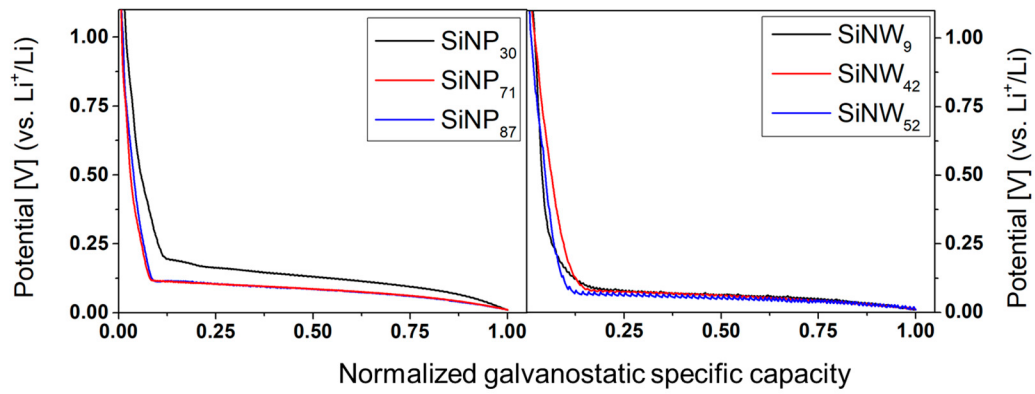


Figure 8. Cell potential vs Li⁺/Li as a function of normalized galvanostatic capacity for SiNPs (left) and SiNWs (right) at first cycle.