

Supporting Information

Robust Polymeric Coating Enables the Stable Operation of Silicon Micro-Plate Anodes Recovered From Photovoltaic Industry Waste for High-Performance Li-Ion Batteries

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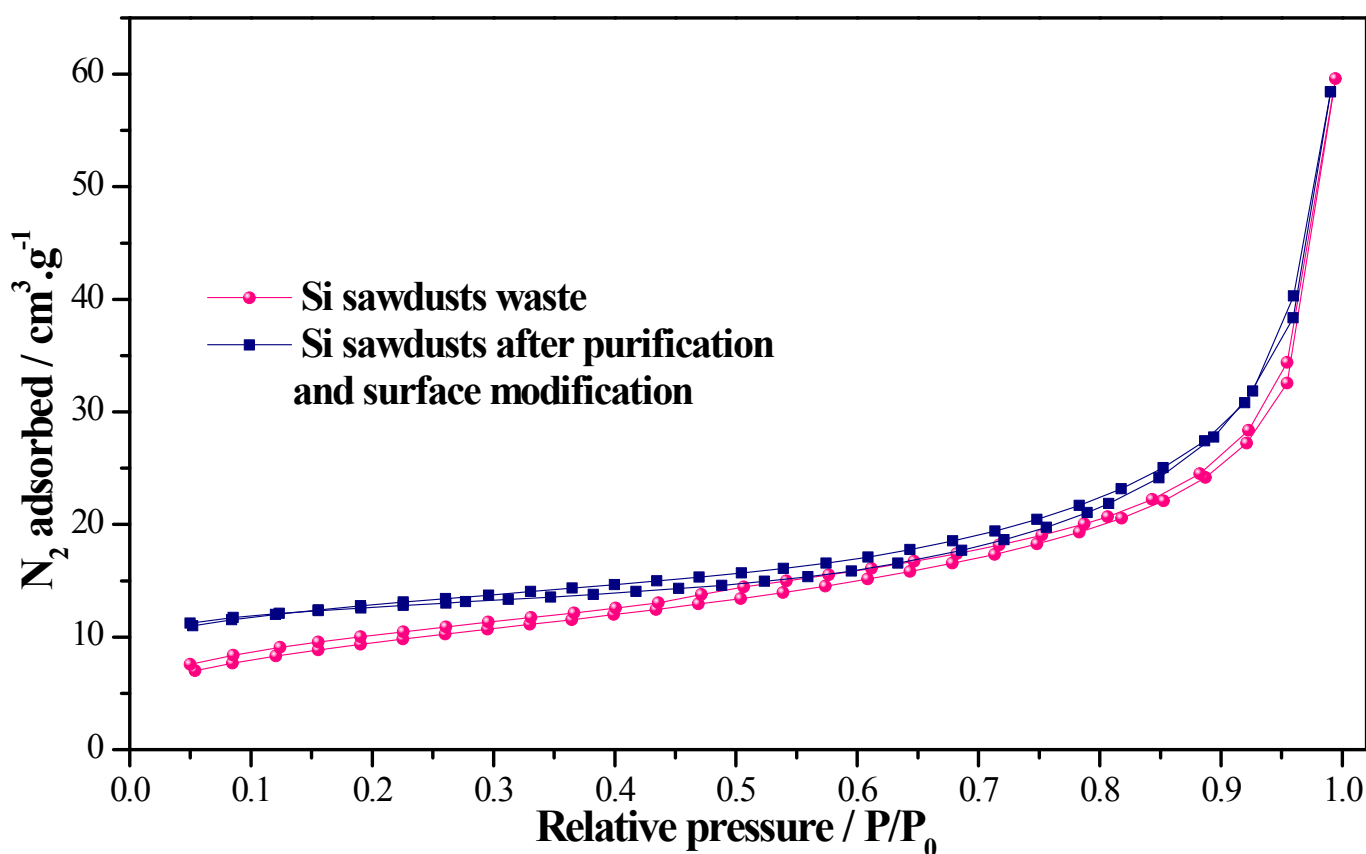


Figure S1. N₂ sorption isotherm of the dried slicing waste containing Si sawdusts and Si sawdusts after purification and surface modification.

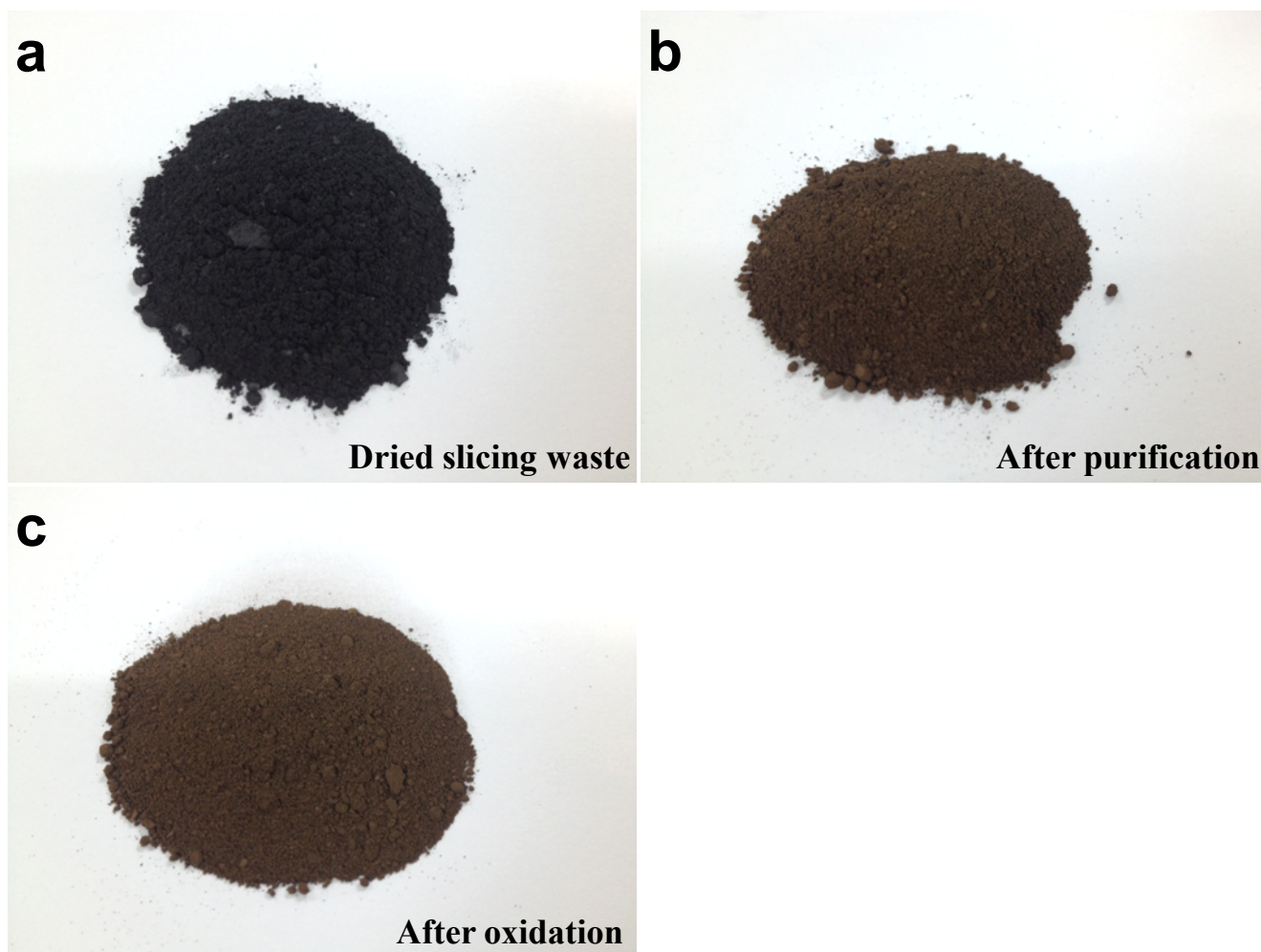


Figure S2. Digital images of (a) the dried slicing waste containing Si sawdusts, (b) Si sawdusts after purification and (c) Si sawdusts after surface modification.

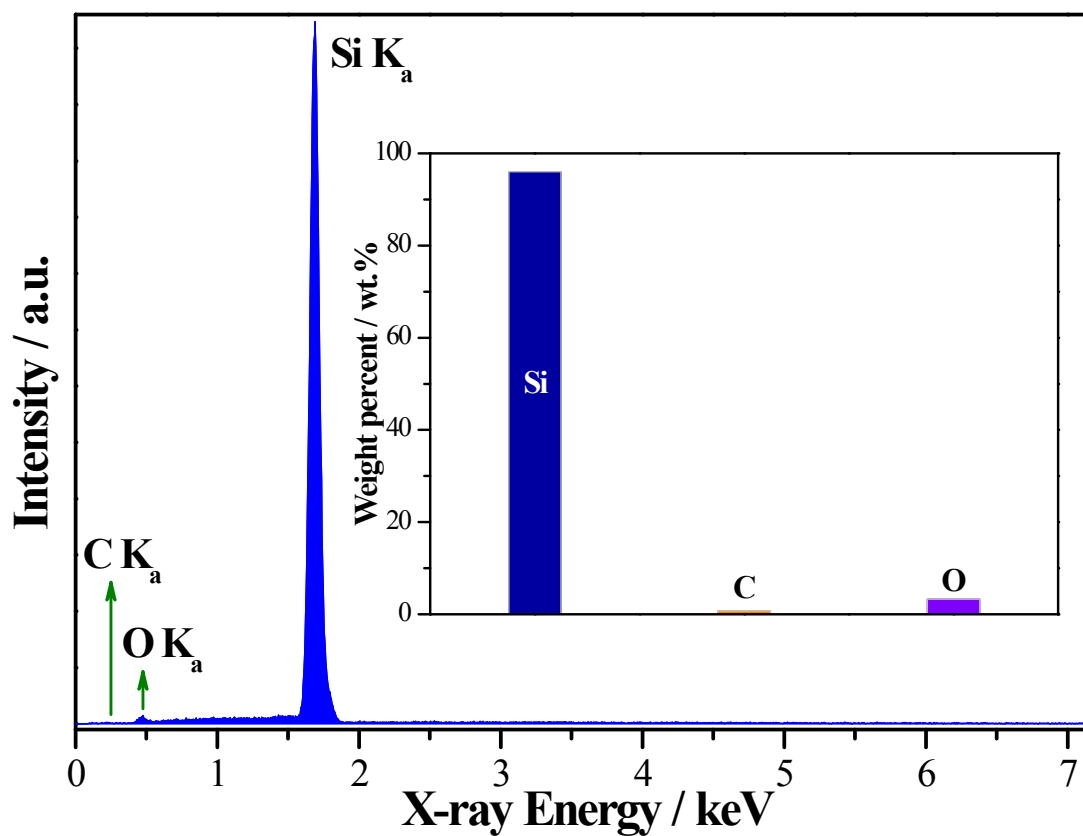


Figure S3. EDX analysis with inset displaying weight percent of elements in the Si micro-plates after purification.



Figure S4. A digital photograph of a uniformly coated electrode film (7cm×22cm) consisting of Si micro-plates, Super P carbon blacks and alginate binder.

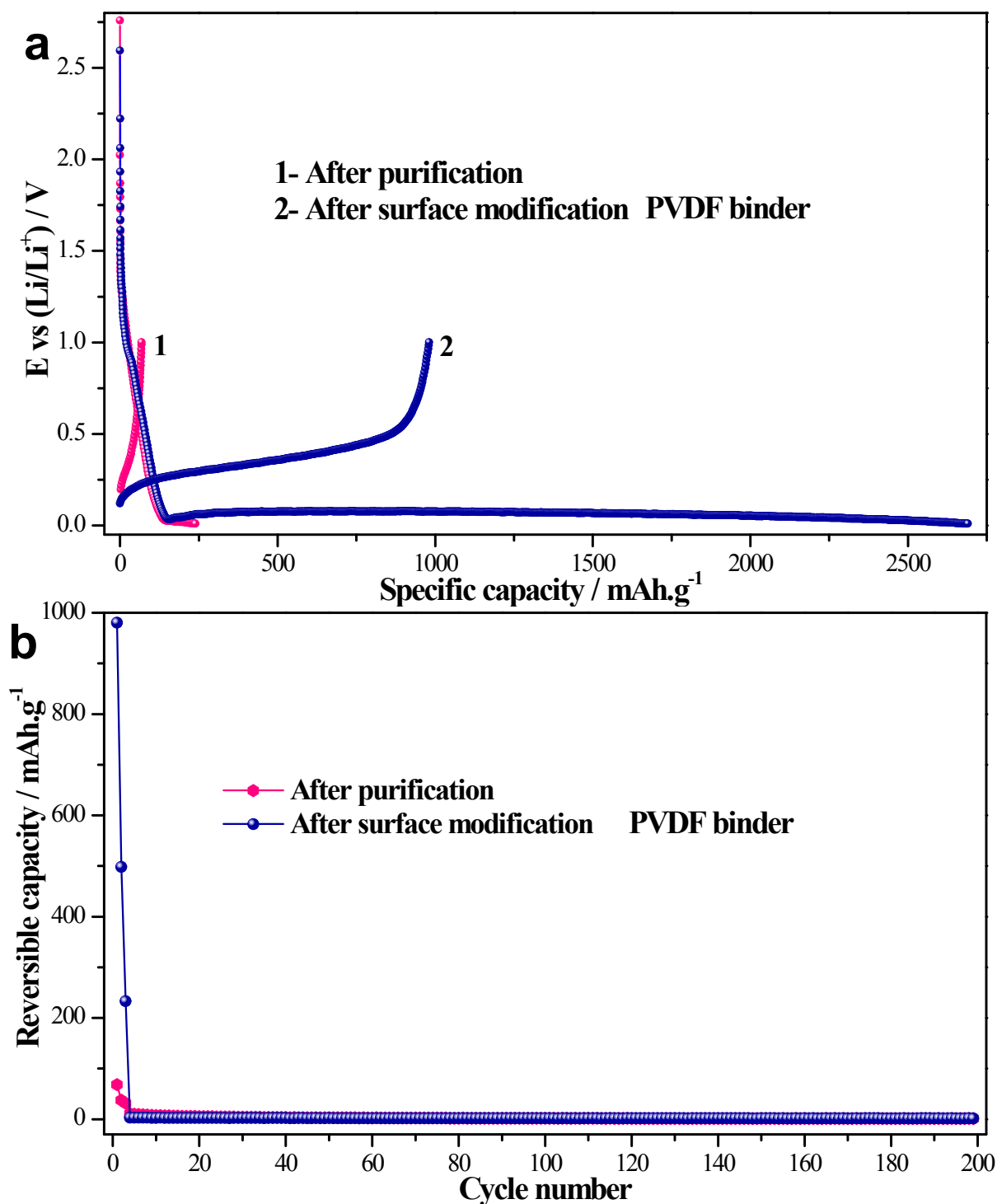


Figure S5. (a) The first discharge/charge profiles of the purified Si and oxidized Si electrodes using PVDF binders in a potential range of 0.01-1 V vs. Li/Li⁺ at 0.05 C. (b) Plots of reversible charge capacities versus cycle number for the purified Si and oxidized Si electrodes using PVDF binder.