

Supporting information

Revisiting Polytetrafluorethylene Binder for Solvent-Free Lithium-Ion Battery Anode Fabrication

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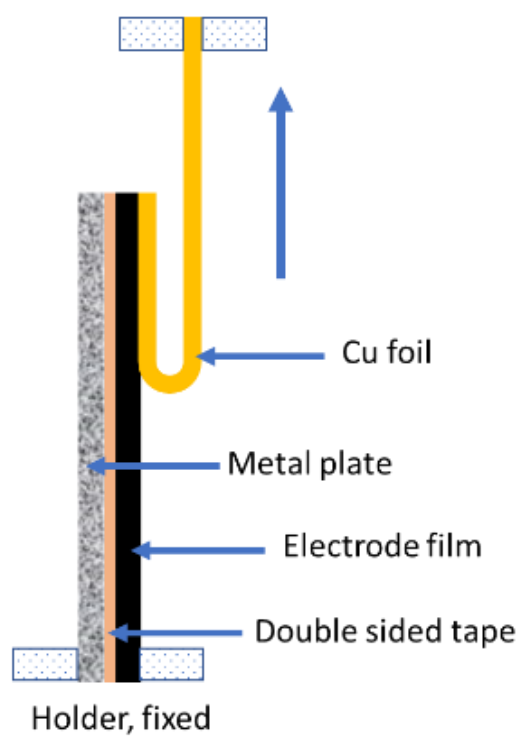


Figure S1. Graphical representation of peel-off strength test with tensile machine.

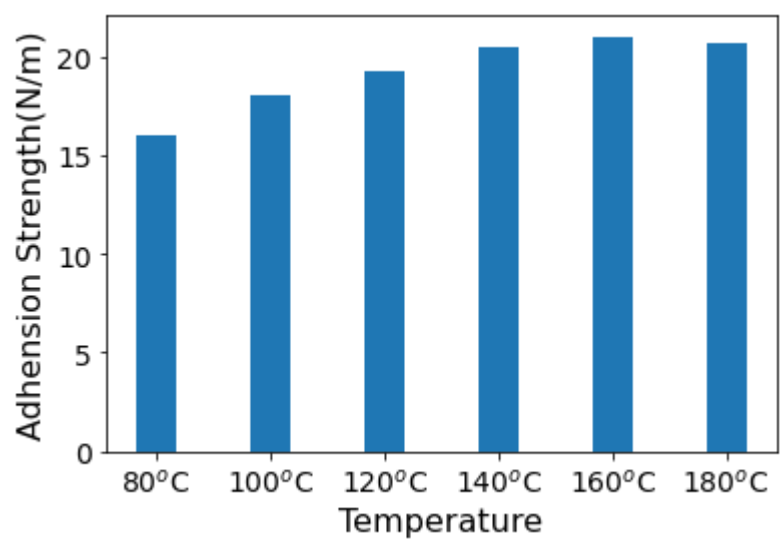


Figure S2. Adhesion strength at different lamination temperatures.

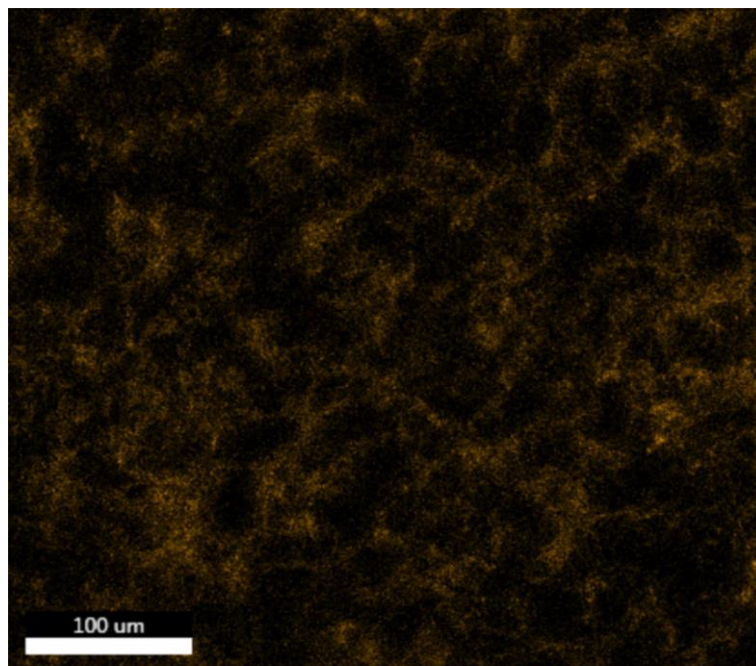


Figure S3. Fluorine element distribution on the surface of the pristine SF graphite anode from SEM-EDS mapping.

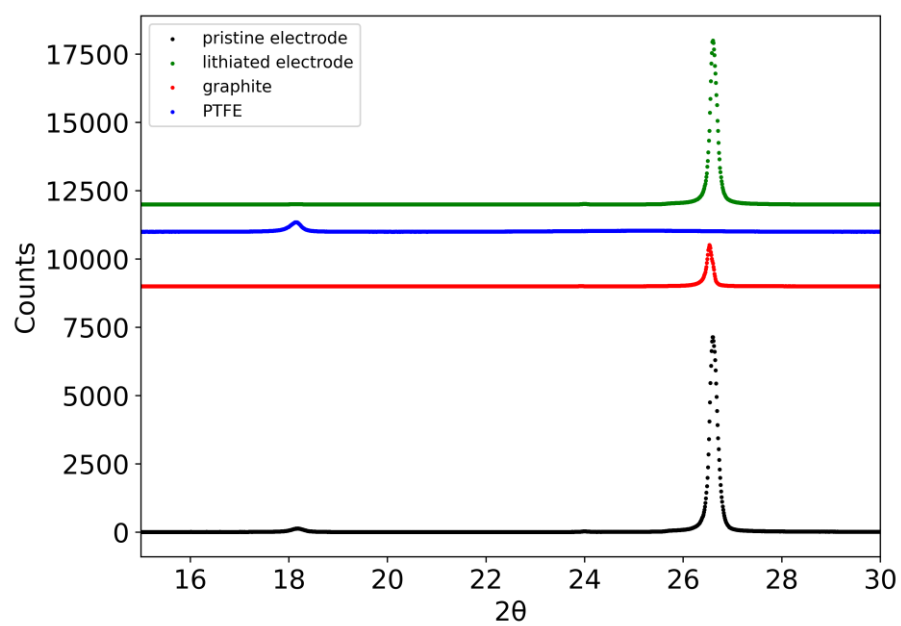


Figure S4. XRD characterization of pure PTFE powder, graphite powder, pristine SF graphite anode, and SF graphite anode after first lithiation.



Figure S5. Hard carbon electrode with high loading of 25 mg/cm².

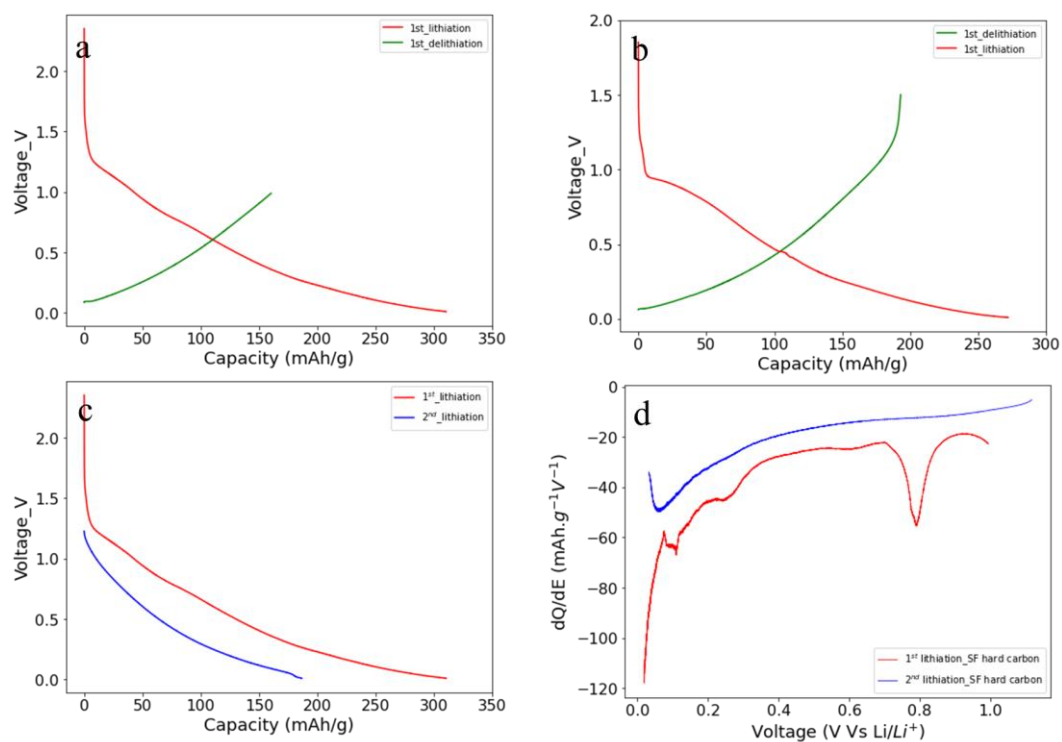


Figure S6. (a) First lithiation voltage-capacity curves for the SF hard carbon electrodes; (b) first lithiation voltage-capacity curves for the CSC hard carbon electrodes; (c) voltage-capacity curves for the SF hard carbon electrodes during the first and second cycles; (d) differential capacity curves for the SF hard carbon electrodes during the first and second cycles.

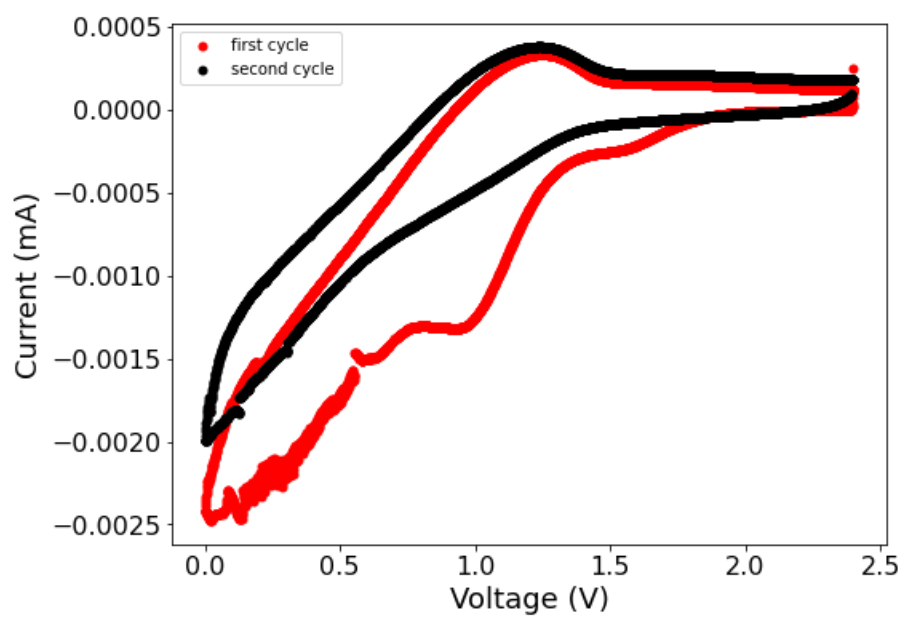


Figure S7. Cyclic voltammogram curves of PTFE electrodes scanned at 0.001 mV/s at the range of 0-2.4V.

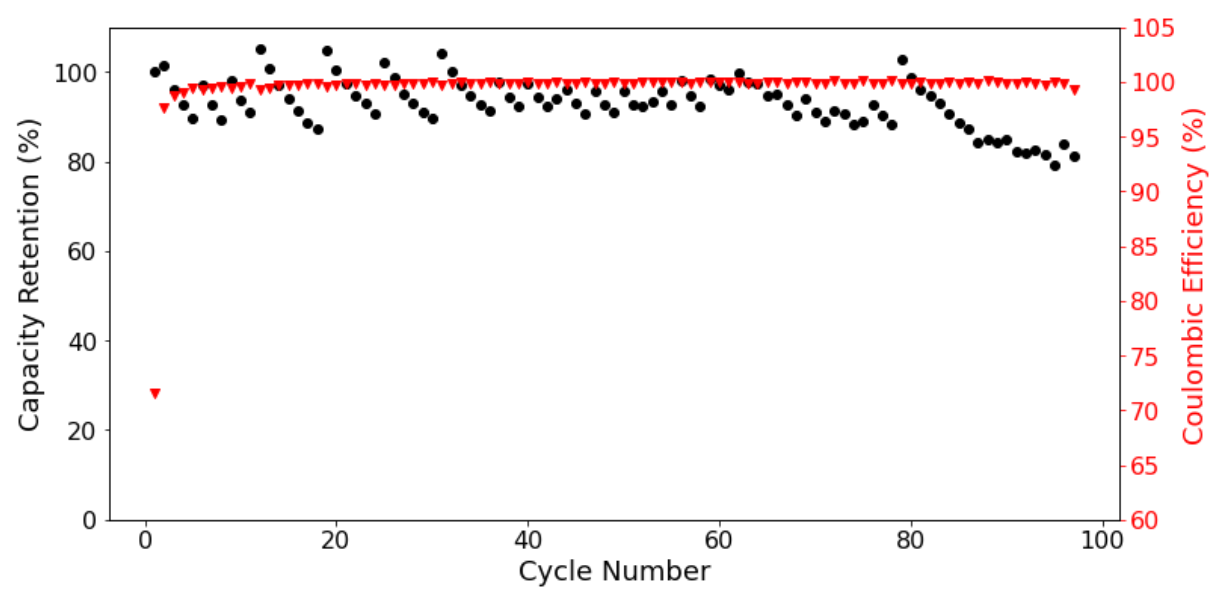


Figure S8. Capacity stability of SF soft carbon electrodes.

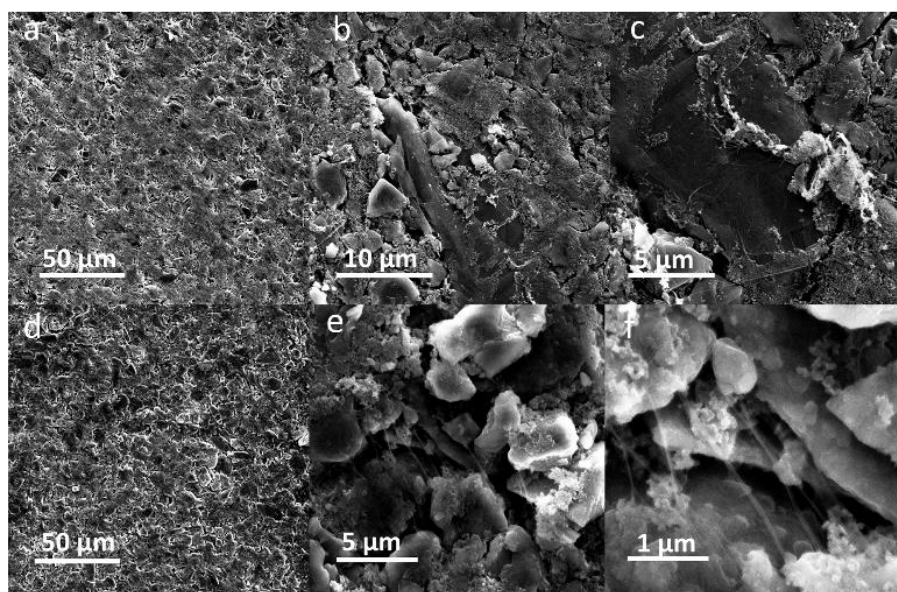


Figure S9. (a, b, c) SEM images of pristine SF soft carbon anodes; (d, e, f) SEM images of SF soft carbon electrodes after 100 cycles at different magnifications.

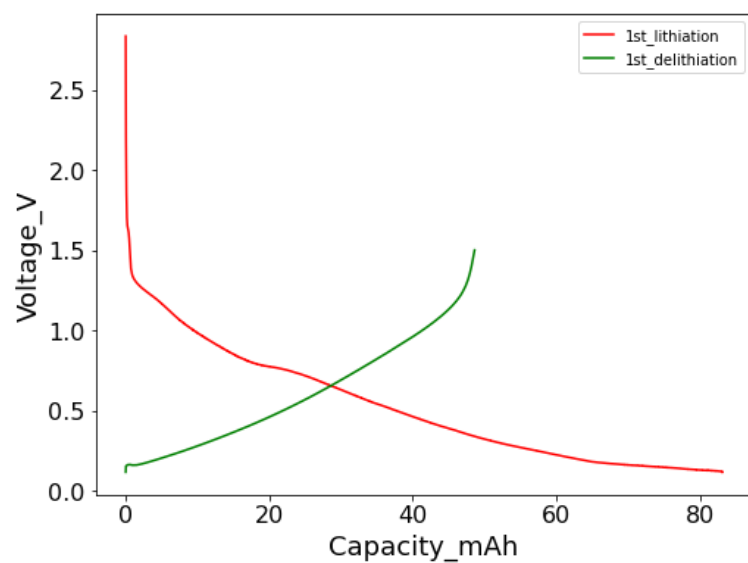


Figure S10. Voltage-capacity curves for the prelithiation process with lithium foil as lithium resource.