

Online Supporting Information:

## Performance of non-woven pitch-based carbon fibers as redox flow battery electrodes

Abena A. Williams<sup>‡</sup>, Sagar V. Kanhere<sup>‡</sup>, Amod A. Ogale, Mark E. Roberts\*

<sup>‡</sup>Authors contributed equally.

Center for Advanced Engineering Fibers and Films, Department of Chemical Engineering,  
Clemson University, Clemson SC 29634

\*Corresponding author E-mail: mrober9@clemson.edu



Figure S1: Lab-scale Zinc Iodine and Vanadium Redox Flow Batteries

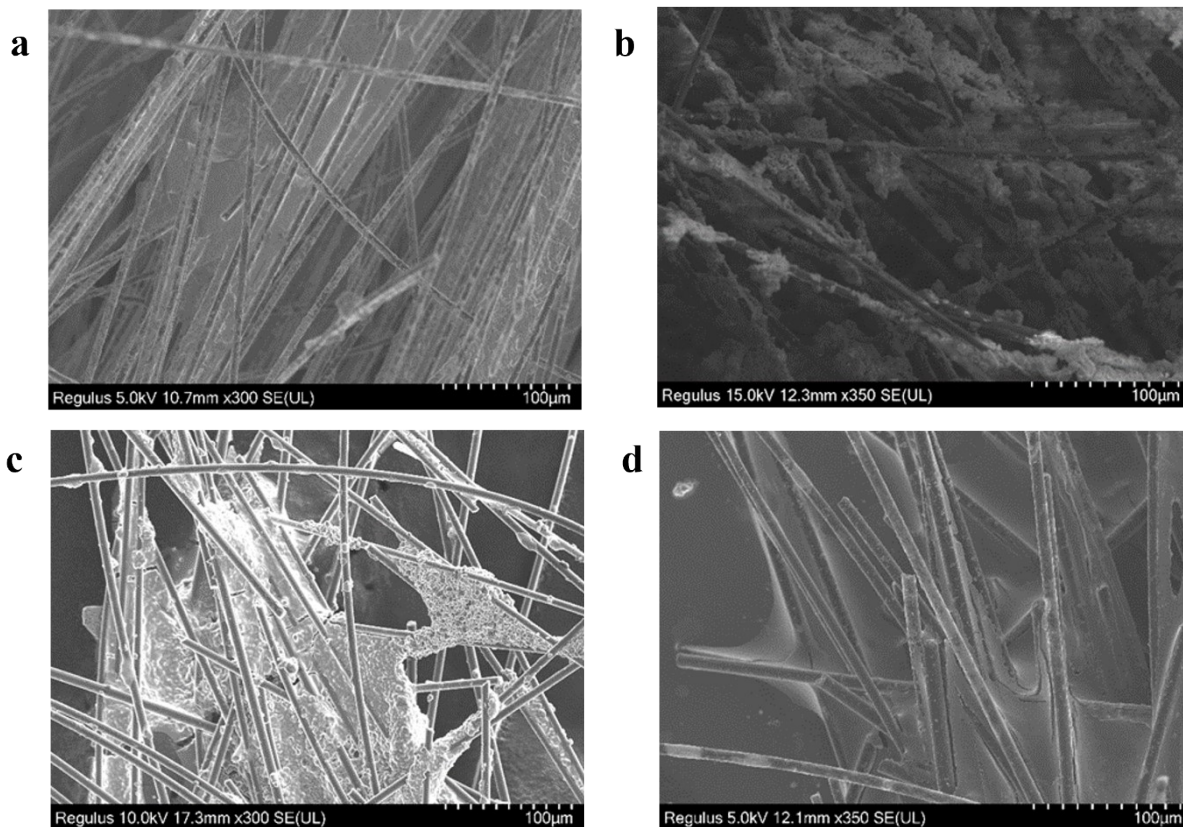


Figure S2: SEM micrographs of NWCF electrodes (a) ZIRFB Anode (b) ZIRFB Cathode (c) VRFB Anode (d) VRFB Cathode

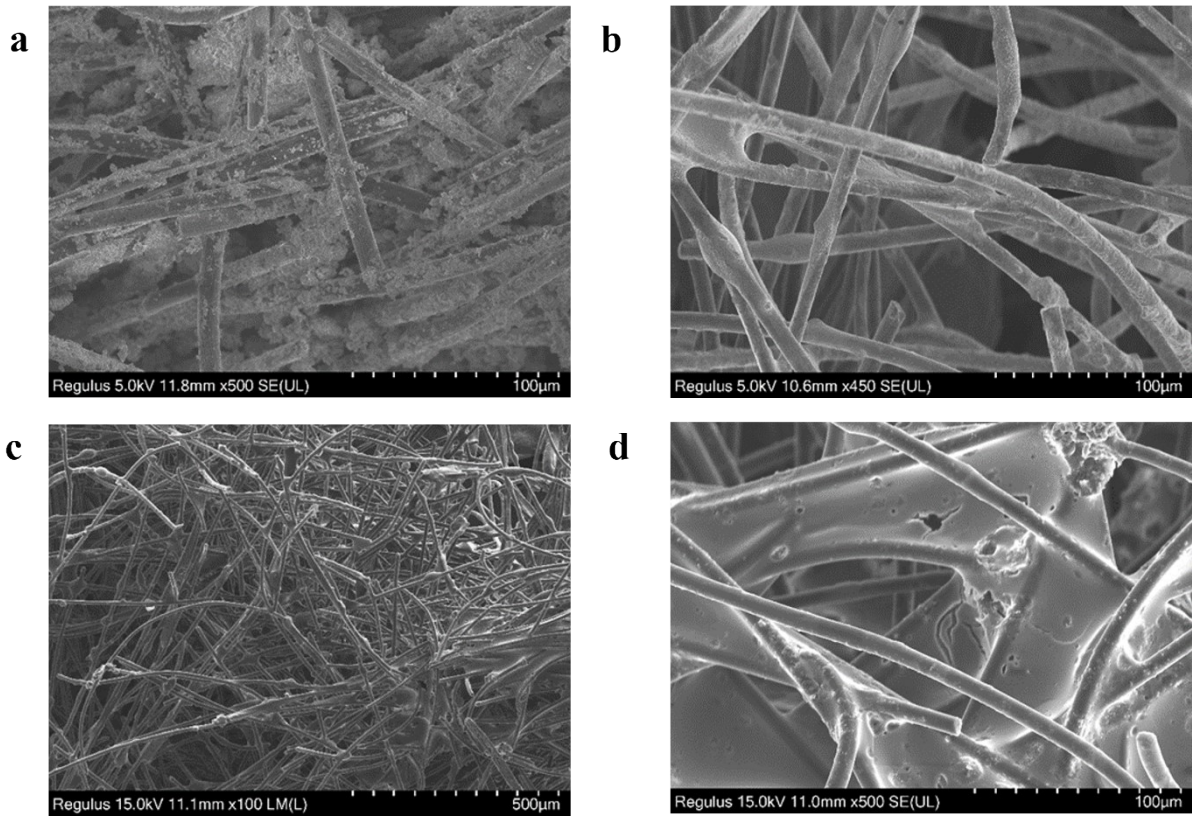
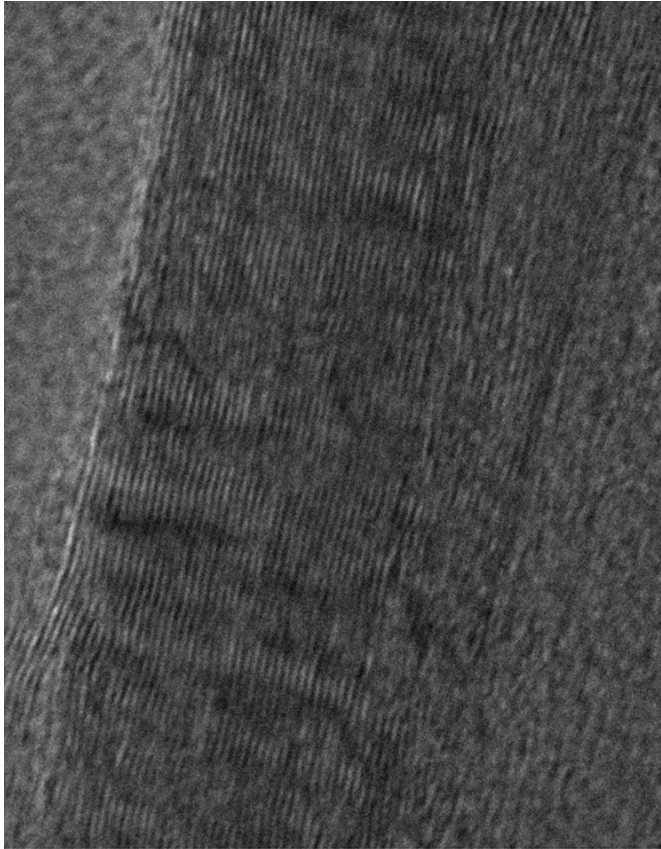


Figure S3: SEM micrographs of PAN felt electrodes (a) ZIRFB Anode (b) ZIRFB Cathode (c) VRFB Anode (d) VRFB Cathode



5 nm

Figure S4: Transmission Electron Microscopy image of non-woven carbon fibers showing the graphitic order