Electronic Supplementary Material (ESI) for Nanoscale.

Carbon Foam-Supported High Sulfur Loading Composite as a Self-Supported Cathode for Flexible Lithium–Sulfur Batteries

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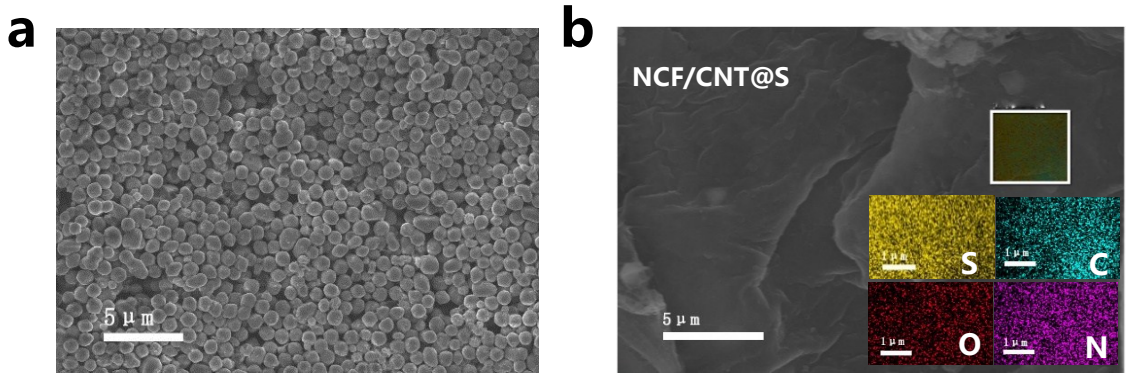

Figure S1 (a) The SEM image of PEDOT@S. (b) The corresponding elemental mapping of sulfur, carbon, oxygen, nitrogen in NCF/CNT@S electrode.

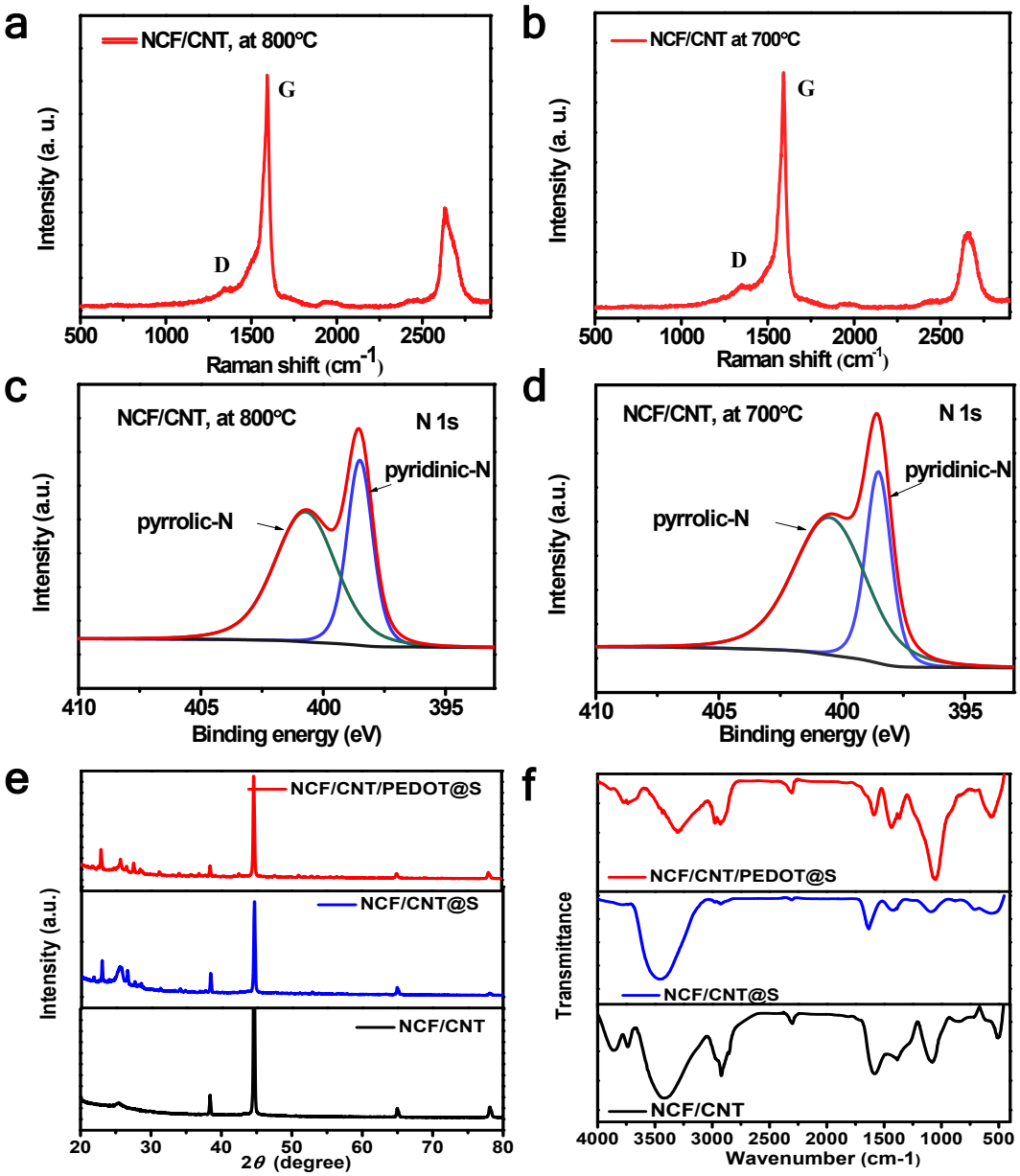

Figure S2. (a) and (b) Raman spectra of the NCF/CNT film prepared through pyrolysis at 800°C and 700°C. (c) and (d) XPS spectra of the NCF/CNT film prepared through pyrolysis at 800°C and 700°C. (e) X-ray diffraction (XRD) patterns of NCF/CNT/PEDOT@S, NCF/CNT@S and NCF/CNT. (f) Infrared spectrometer (FTIR) of NCF/CNT/PEDOT@S, NCF/CNT@S and NCF/CNT.

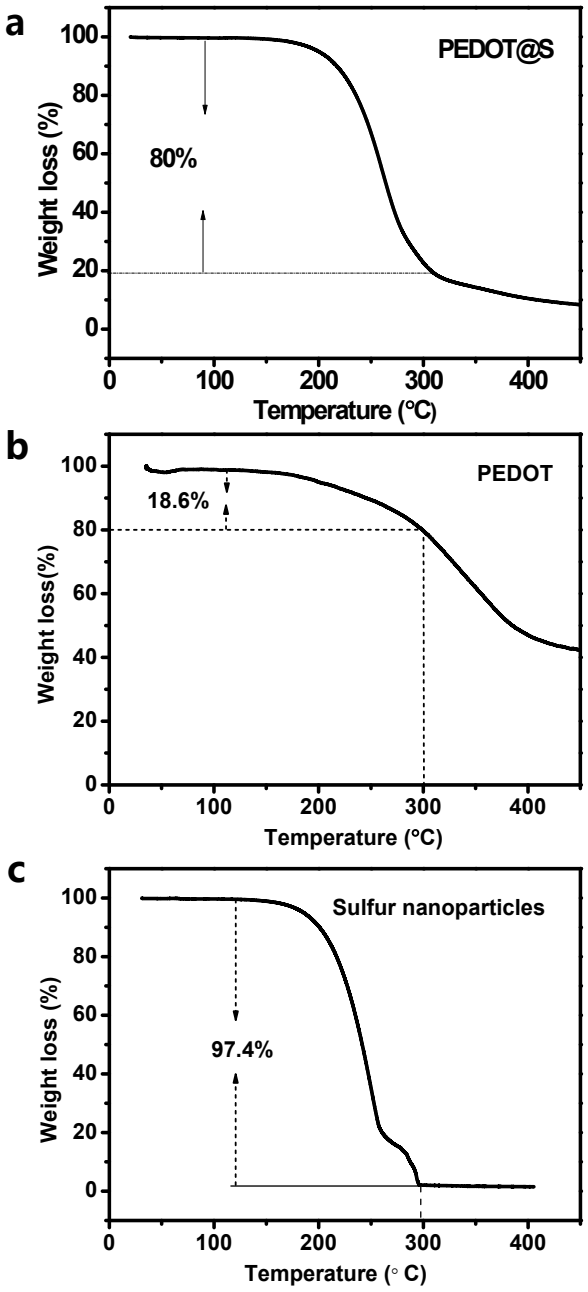

Figure S3. (a) TG curve of PEDOT@S. (b) TG curve of PEDOT. (c) TG curve of Sulfur nanoparticles.

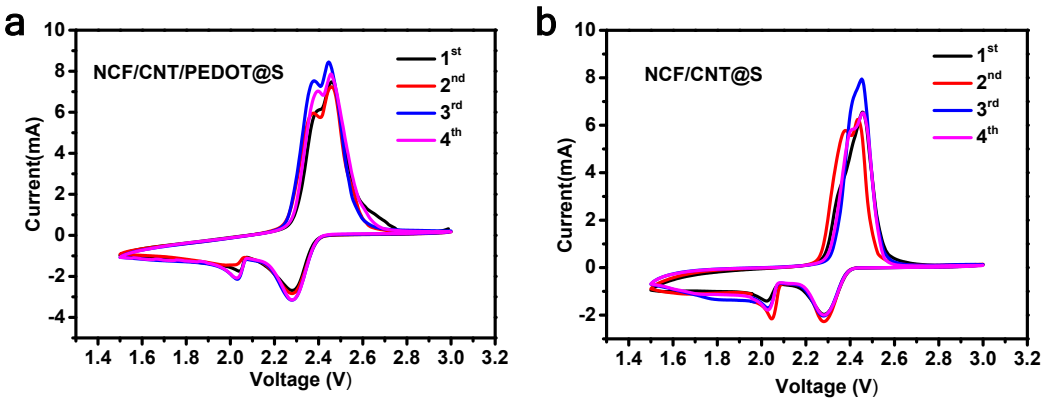

Figure S4 (a) Cyclic voltammetry curves of the NCF/CNT/PEDOT@S and (b) NCF/CNT@S electrodes at 0.1 mV s^{-1}, 1.5–3.0 V.

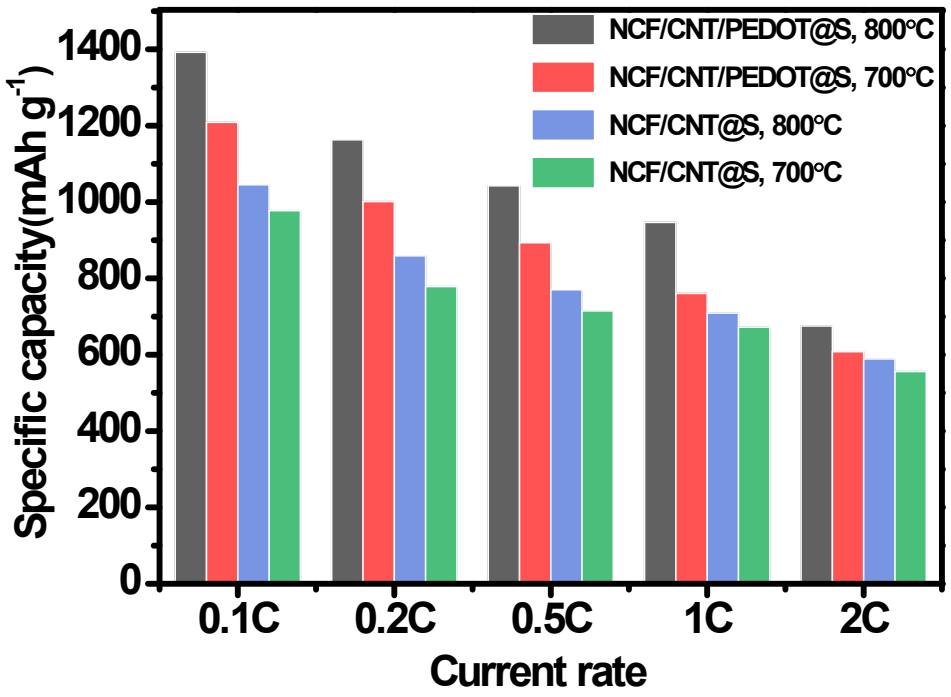

Figure S5 Histogram of comparison rate capabilities of NCF/CNT/PEDOT@S and NCF/CNT@S electrodes prepared through pyrolysis at 700 and 800° C from 0.1 to 2C.

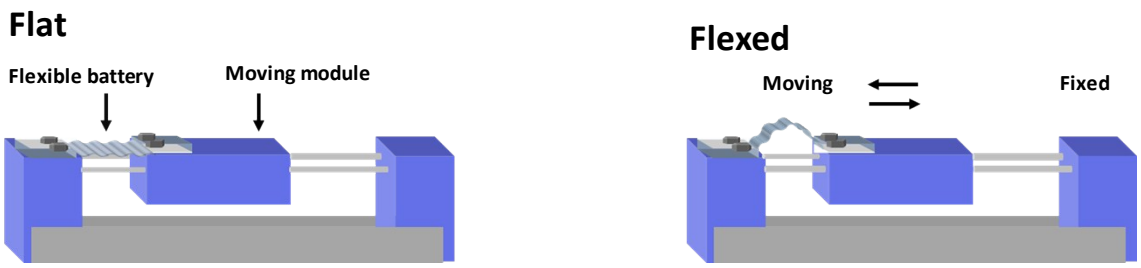

Figure S6 The schematic of the custom-made flexing apparatus.