# Supporting Information

## Freestanding nanocellulose-composite fibre reinforced 3D polypyrrole electrodes for energy storage applications

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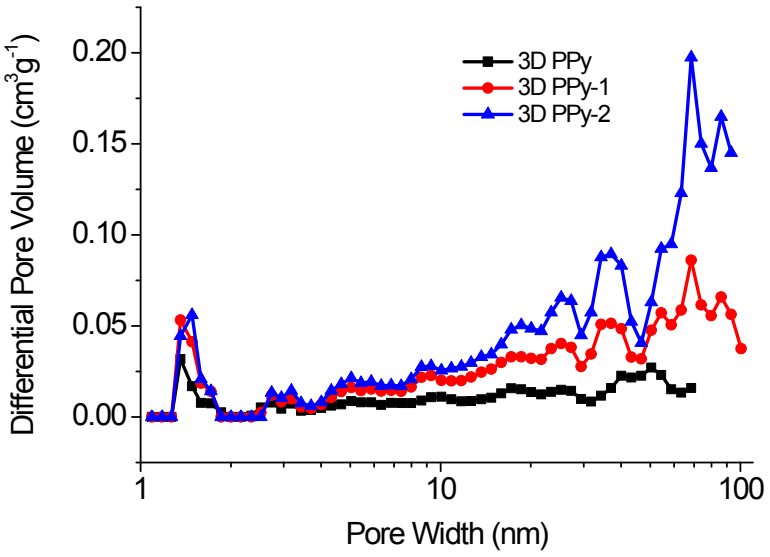


Figure S1. Pore size distributions for the 3D PPy, 3D PPy-1 and 3D PPy-2 samples.

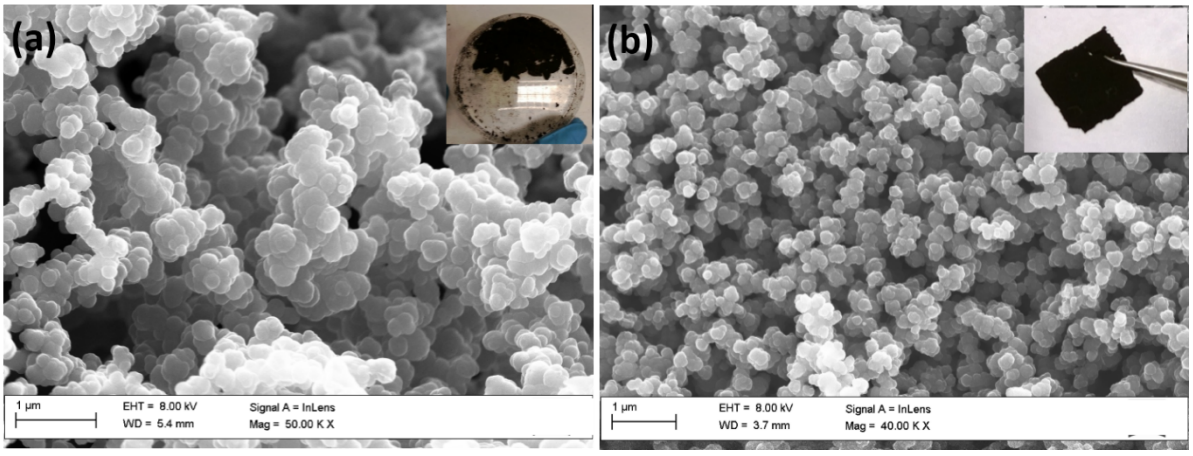


Figure S2. SEM image of PPy powder prepared without phytic acid (a), where the inset shows a photograph of the PPy particles, as well as a corresponding SEM image for a 3D PPy paper electrode (b) where the inset shows the obtained paper-like material.

Table S1. Elastic moduli for the different PPy composites.

| | Sample 1 | Sample 2 |
|---|---|---|
| 3D PPy | 0.27 MPa | 0.26 MPa |
| 3D PPy-1 | 0.59 MPa | 0.59 MPa |
| 3D PPy-2 | 0.91 MPa | 0.86 MPa |

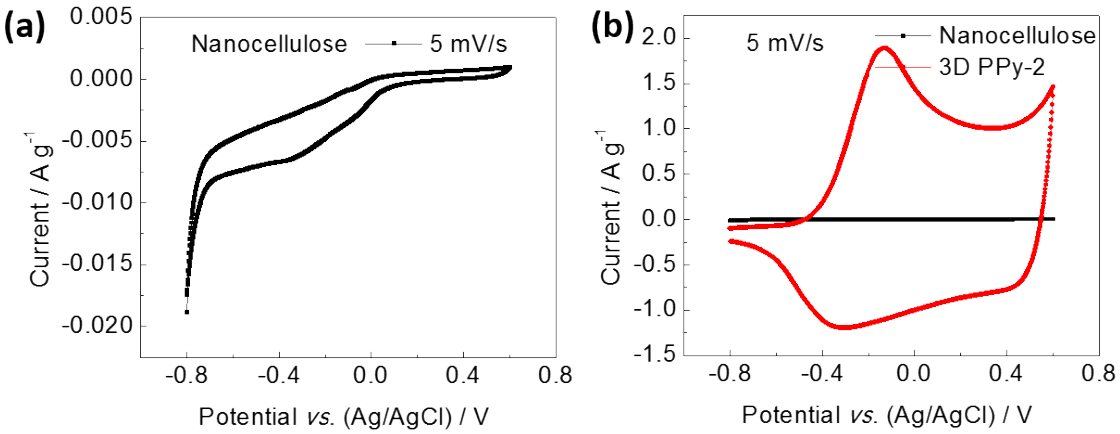


Figure S3. CVs recorded in 2 M NaCl solution for the nanocellulose (a) and both the nanocellulose and the composite (b). The specific capacitance for the nanocellulose in 2 M NaCl was 0.1 F/g, indicating that the nanocellulose does not contribute to the charge capacity of the composites.

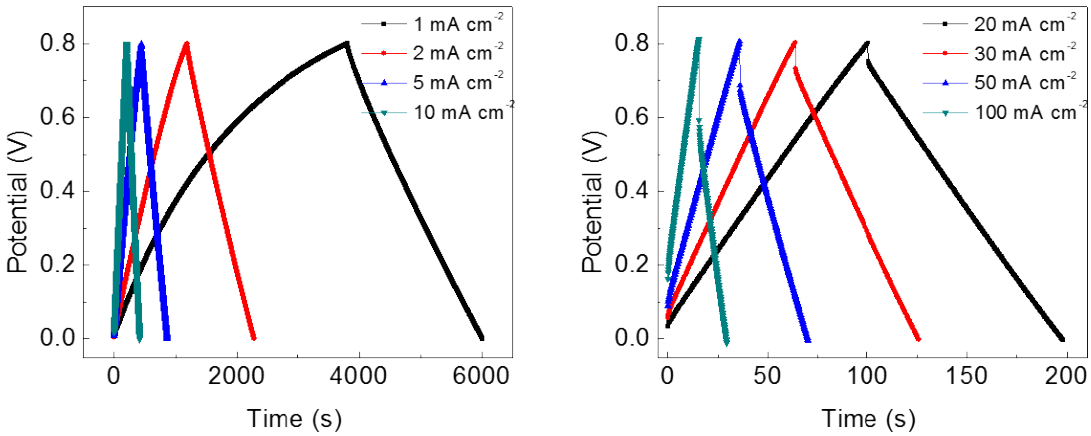


Figure S4. Galvanostatic charge/discharge curves acquired at different currents for 3D PPy-2 sample.

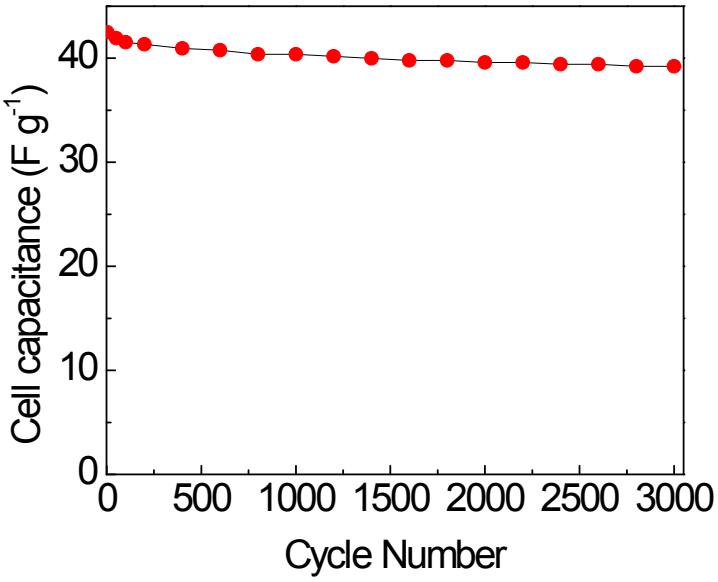


Figure S5. Long-term cycling performance for the symmetric energy storage device based on 3D PPy-2 sample.