# Investigation of Supercapacitor Electrodes Based on MIL-101(Fe) Metal-Organic Framework: Evaluating Electrochemical Performance through Hydrothermal and Microwave-Assisted Synthesis

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Supplementary tables list

Table S1. The fitted impedance parameters of MF(ht) SSC device.

| **MF(ht) SSCD** | **R1 (Ω)** | **R2 (Ω)** | **Q2 ($mF.s^{(\alpha-1)}$)** | **C3 (mF)** |
|---|---|---|---|---|
| **Before cycles** | 0.36 | 20.5 | 4.8 | 60 |
| **After cycles** | 0.39 | 19 | 0.6 | 0.7 |

Supplementary figures list

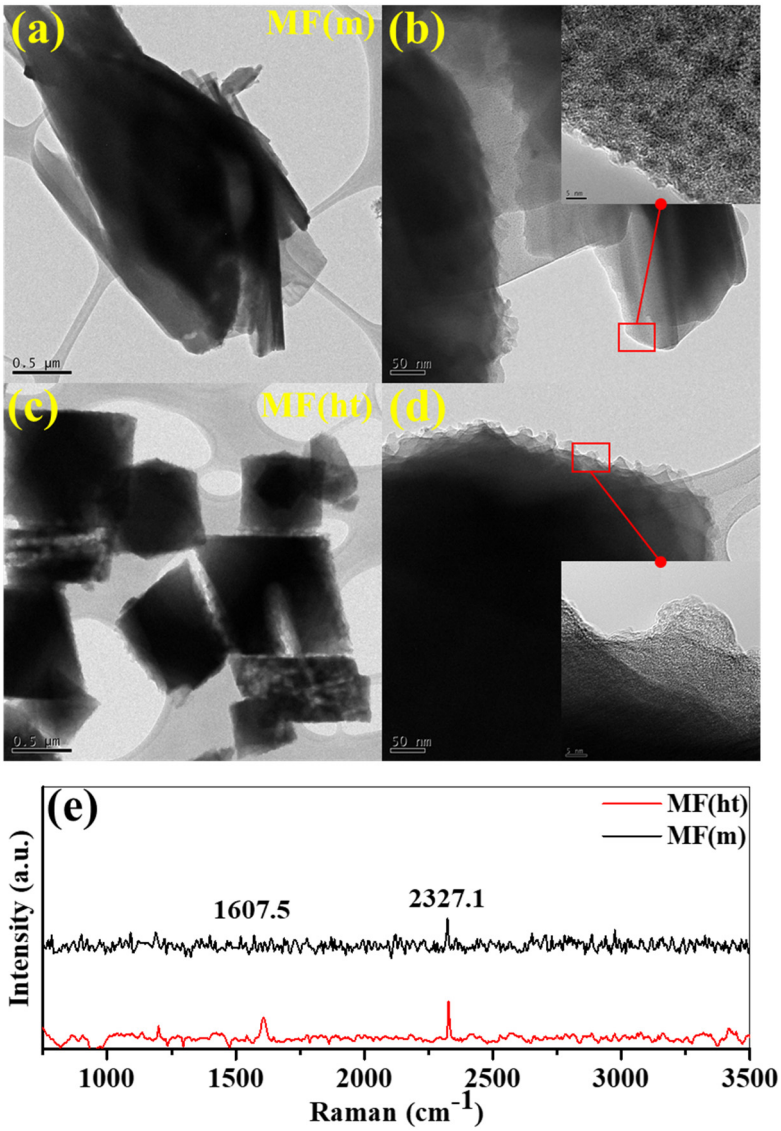



Figure S1. High Resolution TEM images of (a), (b) MF(m) and (c), (d) MF(ht). (e) Raman spectra of as prepared samples.

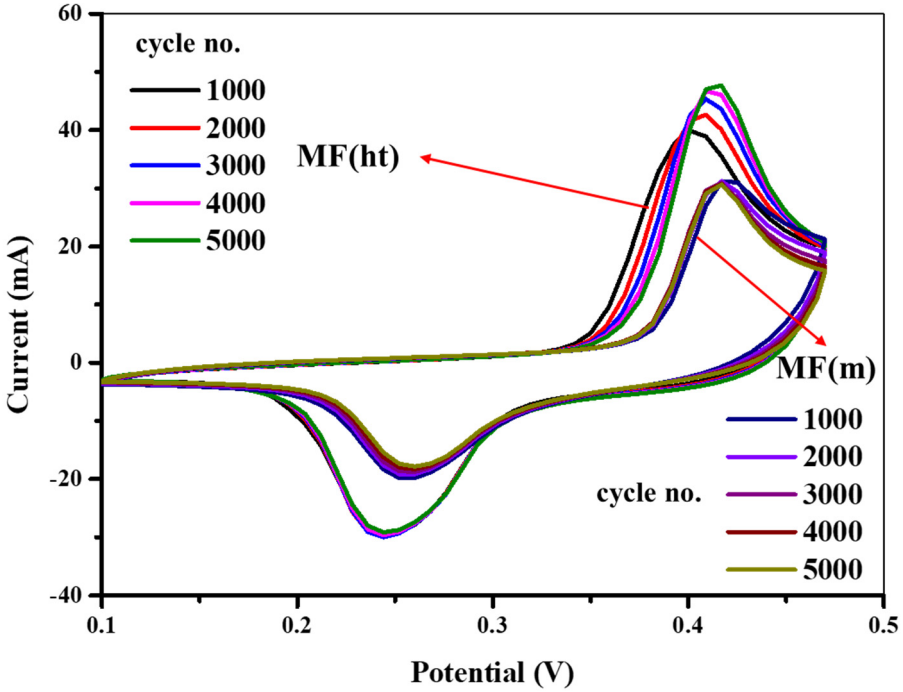



Figure S2. Three electrode configuration: CV profiles of MF(m) and MF(ht) electrodes at various cycles.

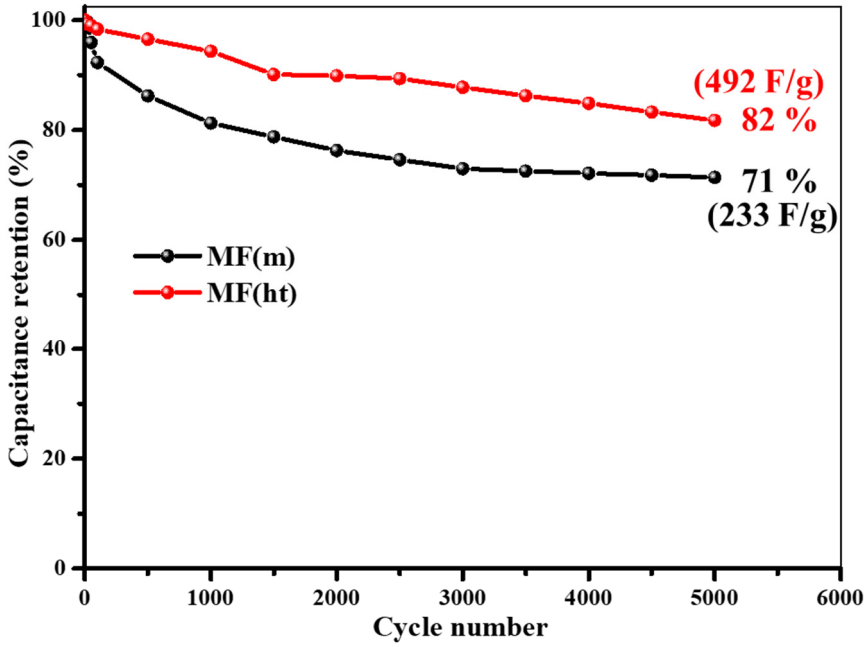



Figure S3. Capacitance retention (%) vs cycle number for MF(m) and MF(ht) electrodes at a current density of 10 A/g.

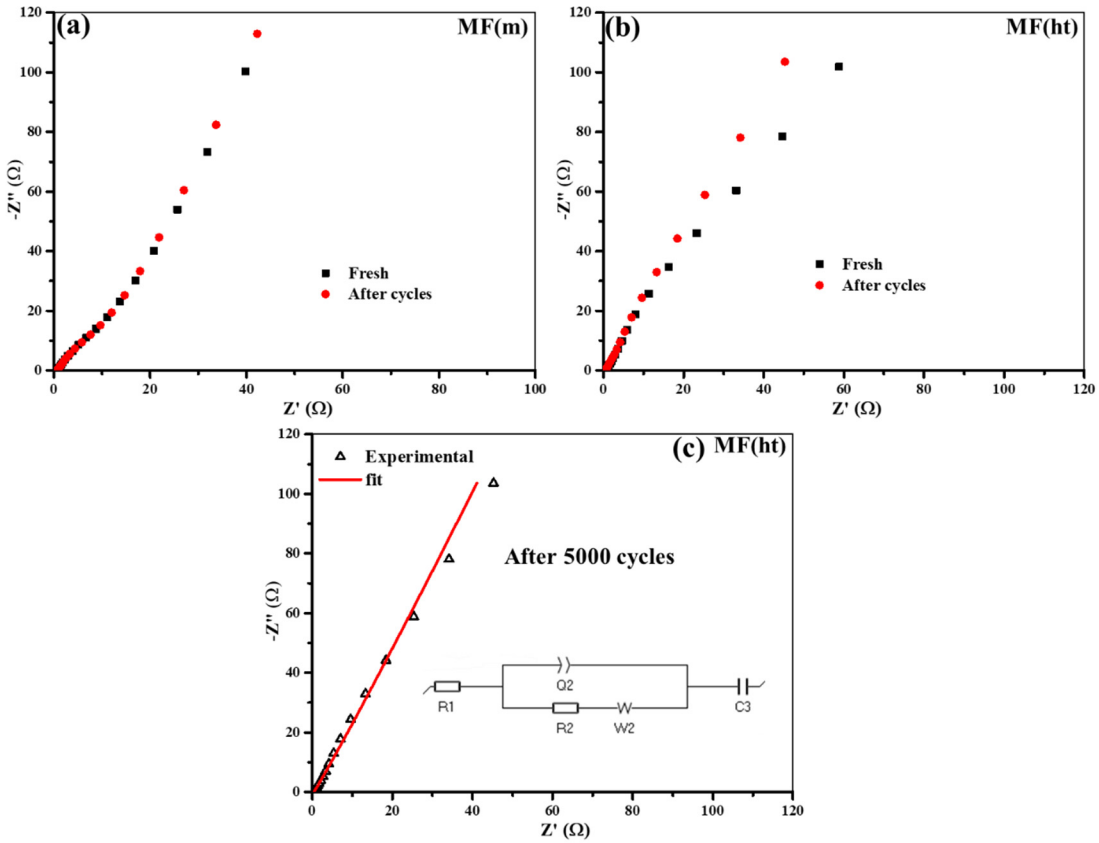



Figure S4. EIS comparison for fresh and after 5000 GCD cycles: (a) MF(m), and (b) MF(ht). (c) The fitted impedance plot for MF(ht) electrode.