

2nd August 2017 Update: Please note that this version of the Supporting information replaces the version that was originally published on 12th August 2015.

The authors regret that the original version of Figure S1 duplicated images from *J. Phys. Chem. C*, 2011, 115 (47), 23584–23590. Figure S1 has now been replaced with a corrected figure containing images that are original to this study.

Supporting information

Polyaniline-Ionic Liquid Derived Ordered Mesoporous Carbon Nanocomposite: Synthesis and Its Supercapacitive Behavior

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Table S1. Electrochemical observations used to choose the best aniline to IOMC ratio for nanocomposite fabrication (Voltammetry at a scan rate of 5 mV s⁻¹ in 1M of H₂SO₄)

| IOMC (mg) | aniline (mg) | (IOMC:aniline) weight ratio | C (F g ⁻¹) |
|-----------|--------------|-----------------------------|--|
| 16.8 | 70 | 0.24 | 511 |
| 16.8 | 42 | 0.42* | 542 |
| 24 | 20 | 1.2 | 278.98 |
| 12 | 5 | 2.4 | 317 |
| 25 | 5 | 5 | 200 (close to capacitance of pure IOMC) |

*Maximum capacitance was obtained for IOMC:aniline ratio of 0.42.

Table S2. Supercapacitive behavior of two electrode supercapacitor system assembled using two identical PANi@IOMC electrodes (Capacitances were estimated for a single electrode).

| v (mV s ⁻¹) | C (F g ⁻¹) |
|---------------------------|------------------------|
| 5 | 444 |
| 10 | 365 |
| 20 | 286 |
| 50 | 218 |
| 75 | 197 |

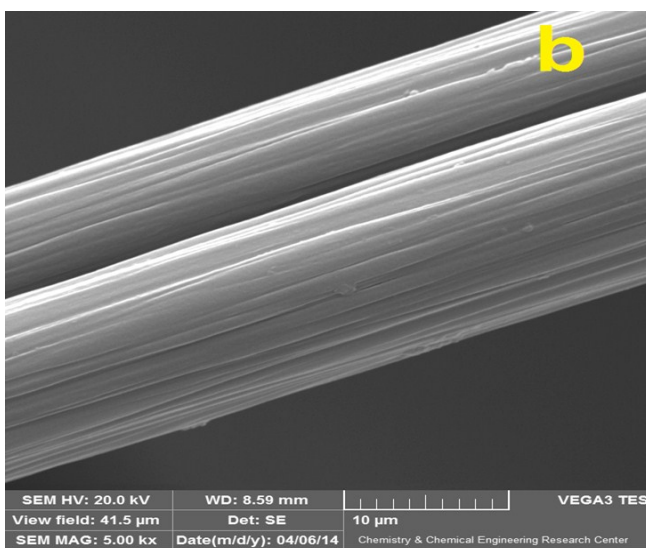
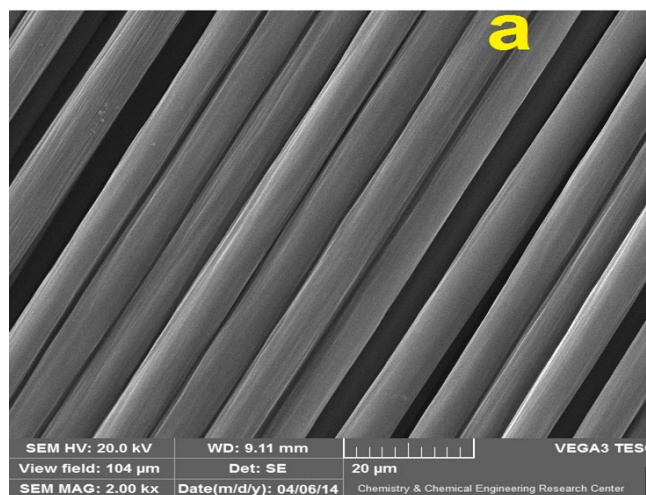


Figure S1. FESEM images of (a) carbon fiber (CF) and (b) electro-etched carbon fiber (ECF)

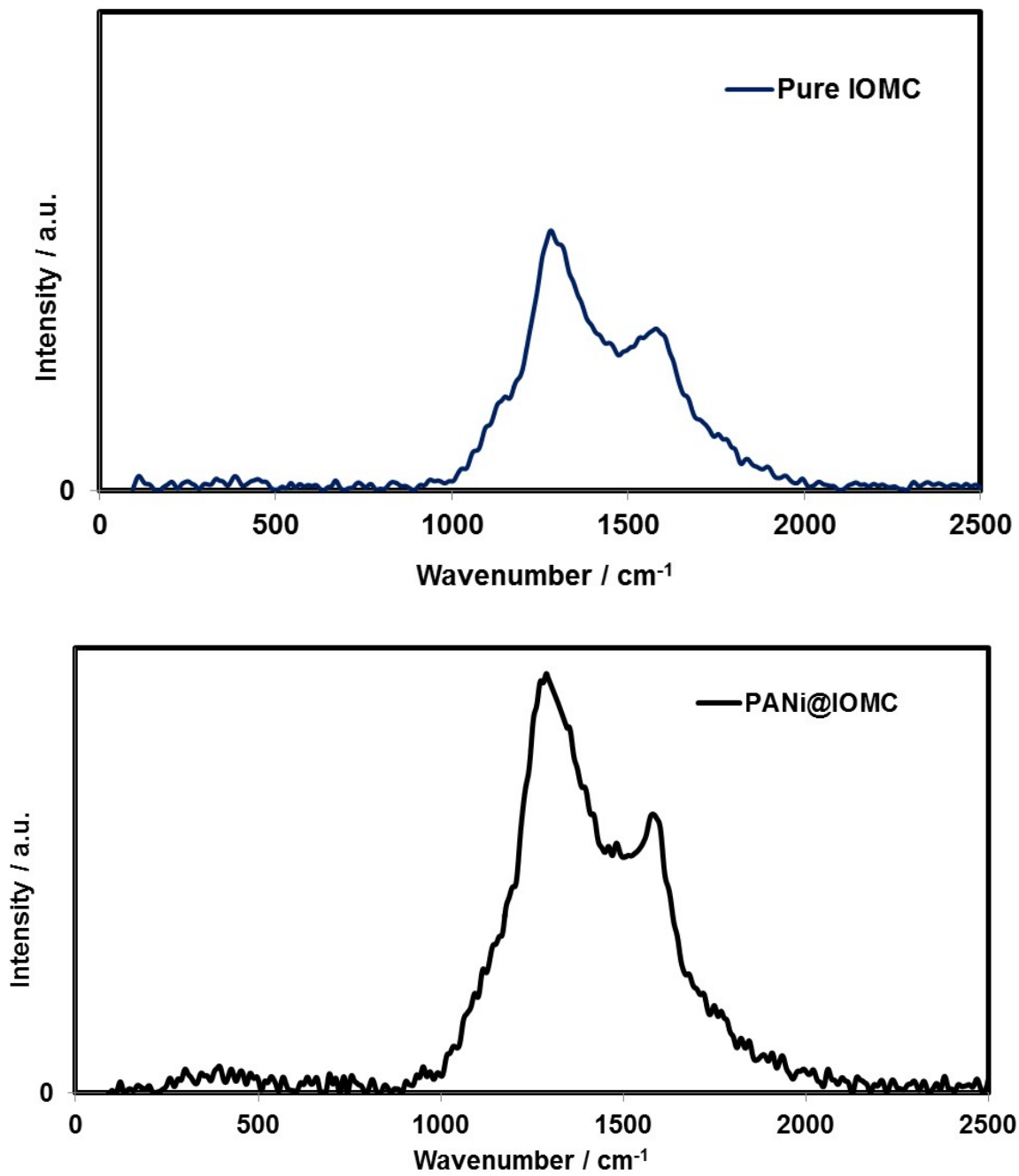


Figure S2. Raman spectra recorded for IOMC (a) and PANi@IOMC (b) materials

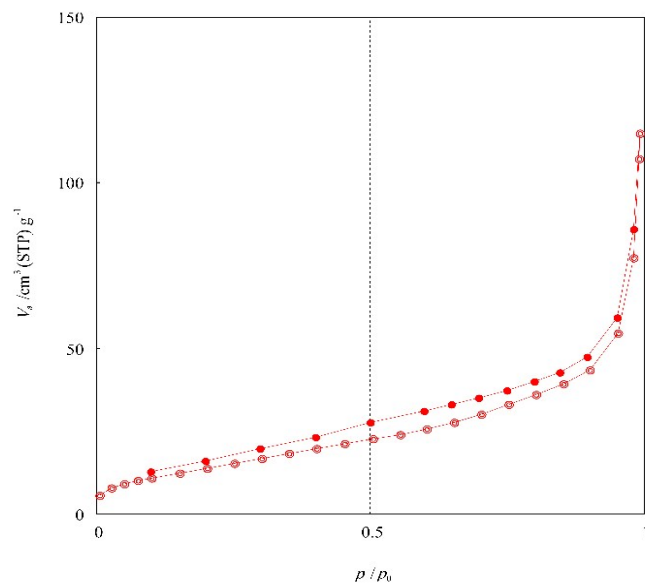


Figure S3. N_2 adsorption–desorption isotherm recorded for PANi@IOMC

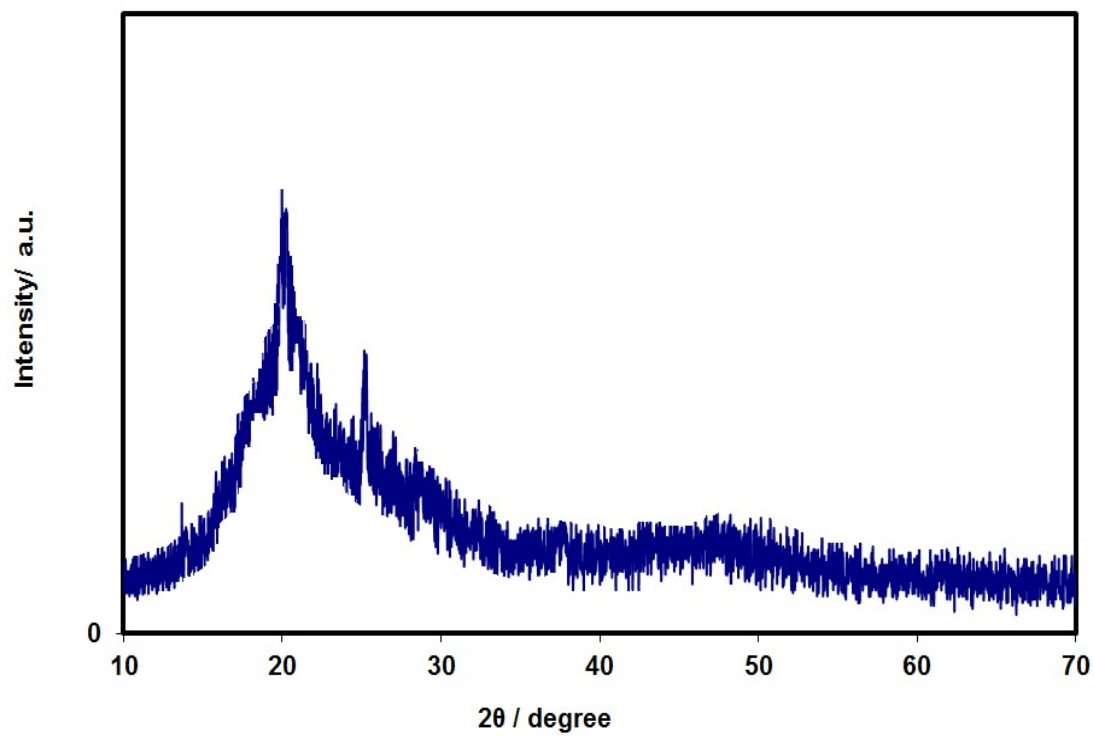


Figure S4. XRD spectrum recorded for PANi@IOMC nanocomposite

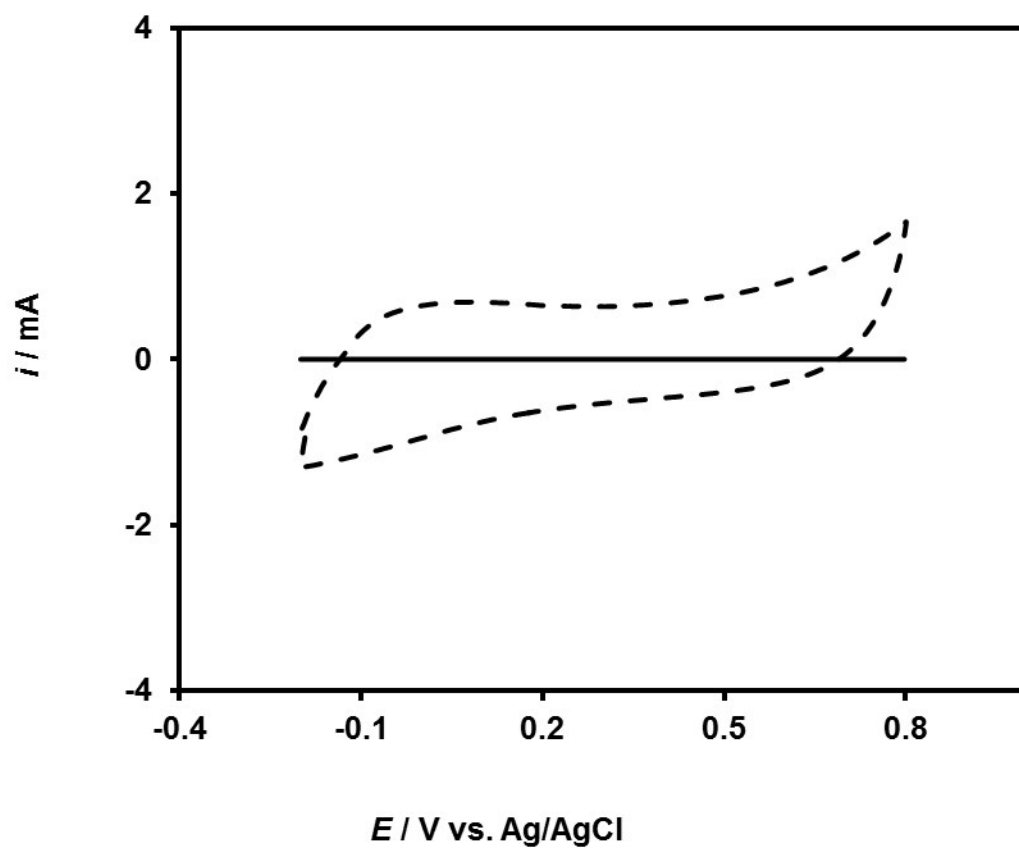


Figure S5. Cyclic voltammograms recorded for carbon fiber substrate before (solid line) and after electro-etching (dashed line curve)

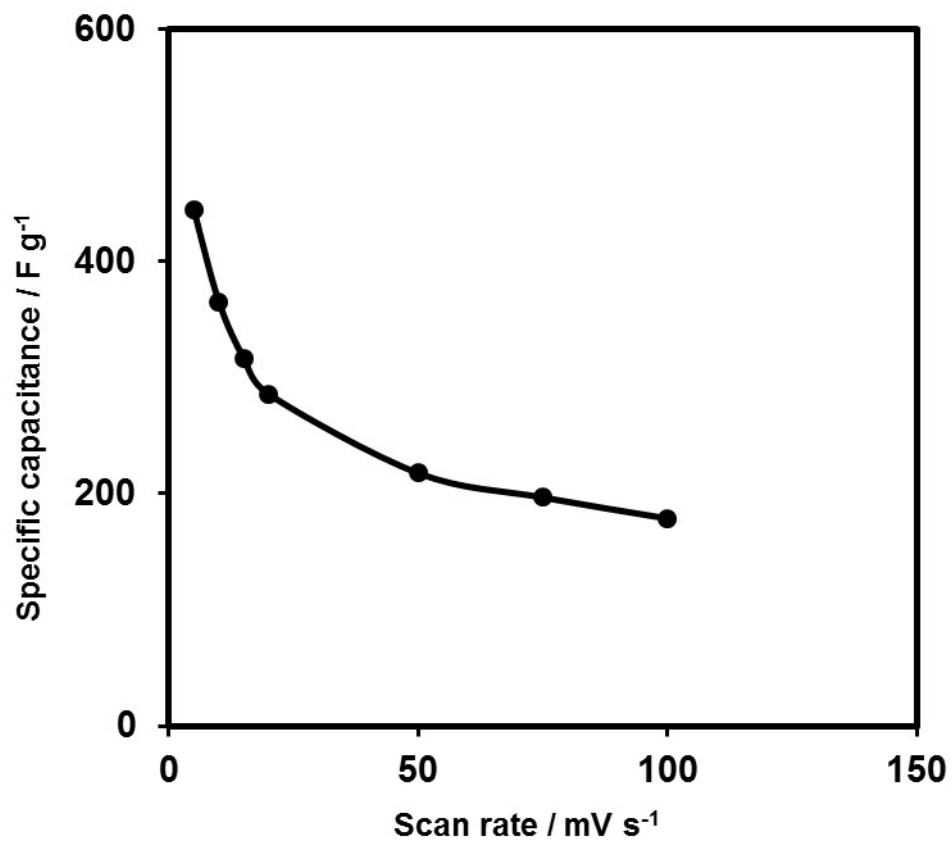


Figure S6. Electrochemical behavior of symmetric two electrodes supercapacitor constructed using two identical PANi@IOMC electrodes (Capacitances were estimated for a single electrode)