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SUPPLEMENTARY MATERIAL TO

Electrical, optical and structural characterization of interfaces containing poly(3-alkylthiophenes) (P3ATs) and polydiphenylamine on ITO/TiO_2: Interaction between P3ATs polymeric segments and TiO_2

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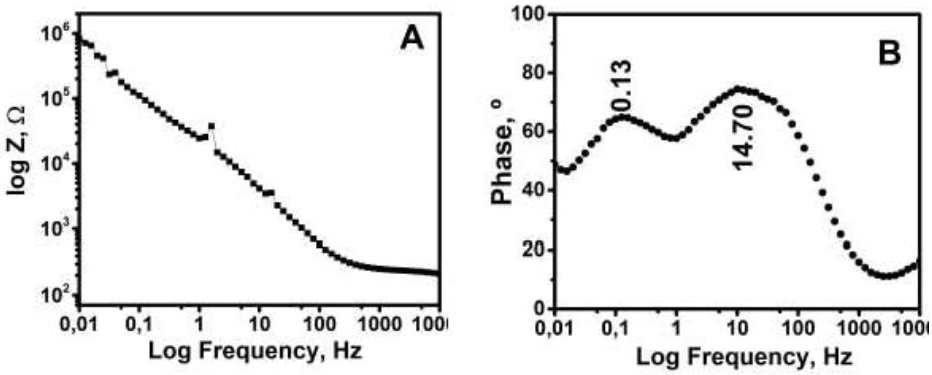

Fig. S-1. Impedance magnitude (A) and Bode-Phase (B) diagrams at open-circuit potential and constant temperature of 22 ºC for the ITO/TiO_2 system.

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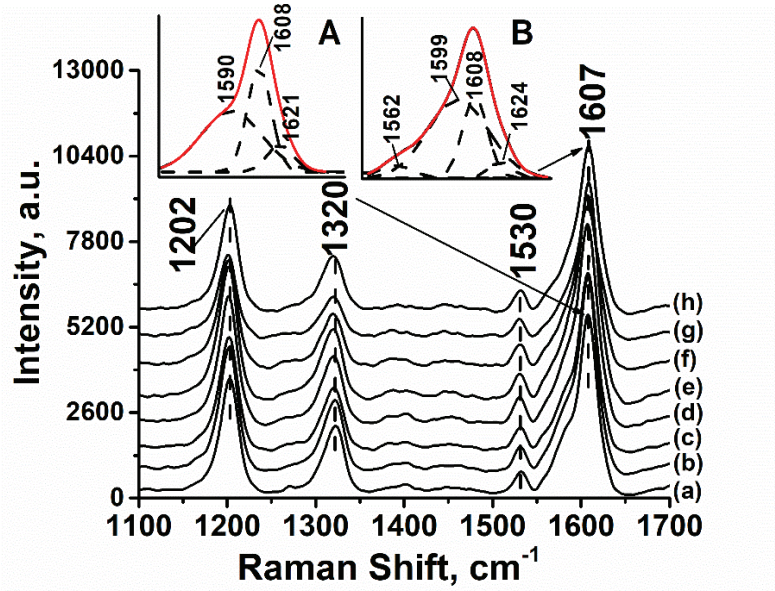

Fig. S-2. Raman spectra of the ITO/TiO_2/PDPA system. Post-synthesis analysis times were a) 0 h, b) 1 h, c)5 h, d) 10 h, e) 15 h, f) 24 h, g) 30 h and h) 97 h at excitation of 532 nm. Insert 5. Deconvoluted Raman spectra for the ITO/TiO_2/PDPA system after A) 0 h and B) 97 h.

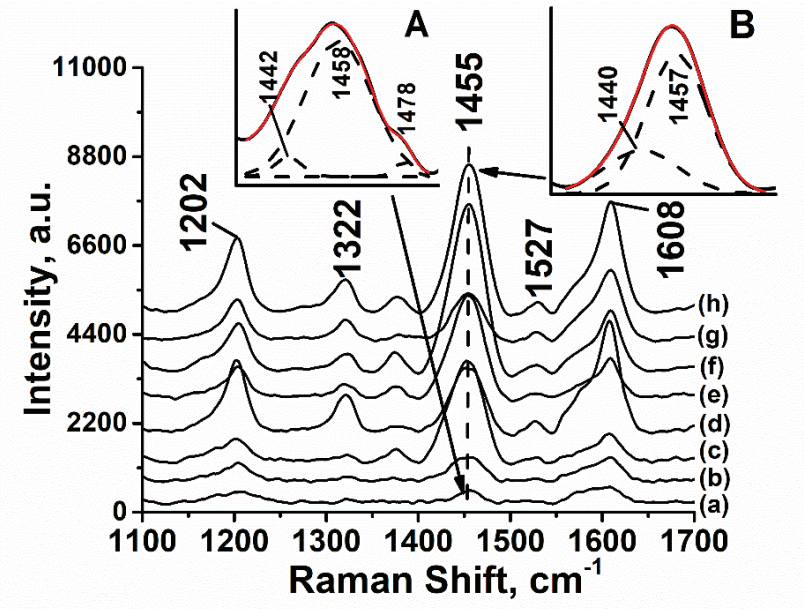

Fig. S-3. Raman spectra of the ITO/TiO_2/PDPA/P3HT system. Post-synthesis analysis times were a) 0 h, b)1 h, c) 5 h, d) 10 h, e) 15 h, f) 24 h, g) 30 h and h) 97 h, at excitation of 532 nm. Insert 6. Deconvoluted spectra for the ITO/TiO_2/PDPA/P3HT after A) 0 h and B) 97 h.

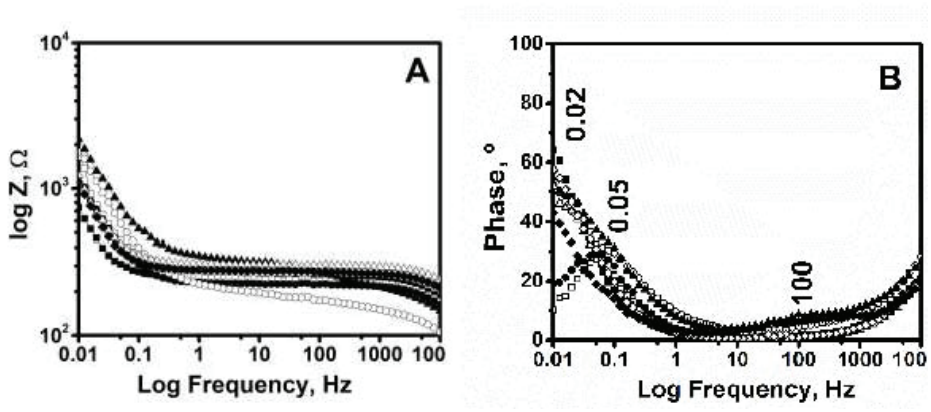

Fig. S-4. Impedance magnitude (A) and Bode-Phase (B) diagrams at open-circuit potential and constant temperature of 22 ºC for the ITO/TiO_2/PDPA/P3HT system. Post-synthesis analysis times were a) 0 h (solid square), b) 1 h (empty square), c) 5 h (solid circle), d) 10 h (empty circle), e) 15 h (solid triangle), f) 24 h (empty triangle), g) 30 h (empty lozenge) and h) 97 h (solid lozenge), after electrochemical synthesis.

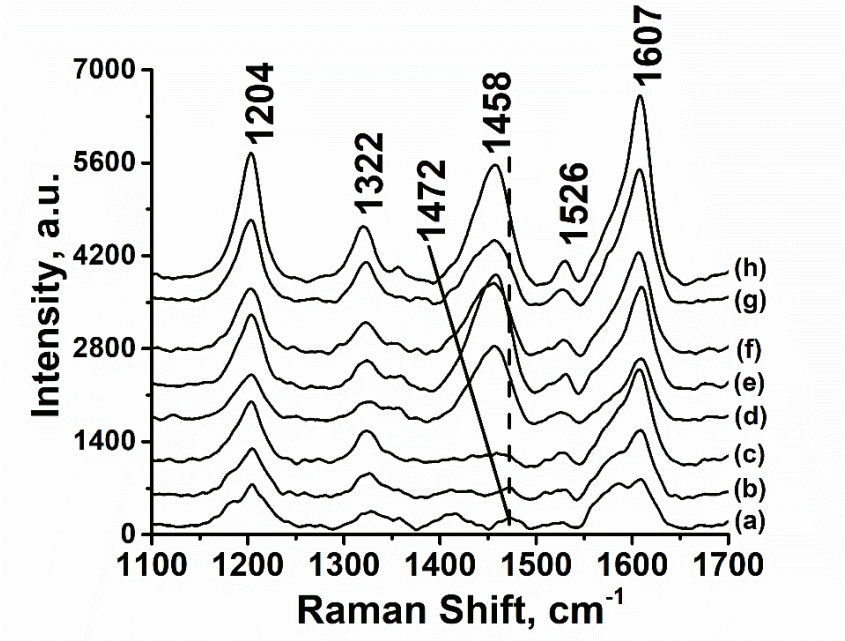

Fig. S-5. Raman spectra of the ITO/TiO_2/PDPA/P3MT system. Post-synthesis analysis times were a) 0 h, b) 1 h, c) 5 h, d) 10 h, e) 15 h, f) 24 h, g) 30 h and h) 97 h, at excitation of 532 nm.

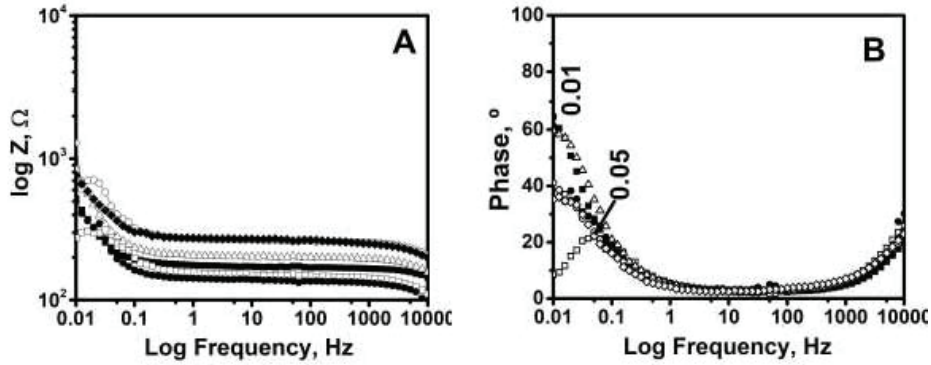

Fig. S-6. Impedance magnitude (A) and Bode-Phase (B) diagrams at open-circuit potential and constant temperature of 22 ºC for the ITO/TiO_2/PDPA/P3MT system. Post-synthesis analysis time were a) 0 h (solid square), b) 1 h (empty square), c) 5 h (solid circle), d) 10 h (empty circle), e) 15 h (solid triangle), f) 24 h (empty triangle) and g) 30 h (empty lozenge), after electrochemical synthesis.