Electronic Supplementary Information

Chemical Synthesis of PEDOT Nanofibers

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Synthesis of PEDOT Nanofibers:

Synthesis and purification: All chemicals were of analytical grade and used as purchased. EDOT monomer (7.0 mmol) was added to 50 ml of a magnetically stirred solution of aq. 1.0M CSA containing 1.0 ml V_2O_5 sol-gel. After complete dissolution of EDOT, 10 ml of a solution of $(NH_4)_2S_2O_8$ (5.0 mmol) in aq. 1.0M CSA was added to initiate the polymerization. The polymerization was monitored by potential-time profiling using Pt wire as the electrode and SCE reference. The solution immediately turned dark blue and after 5 h the black precipitate of PEDOT nanofibers having 100-180 nm diameter was suction filtered and dried under dynamic vacuum at 80^{o}C for 12 h to yield ~600 mg of PEDOT nanofibers (95% yield) having conductivity σ_{RT} ~16 S/cm (pressed pellet). The control experiment was carried out without addition of V_2O_5 nanofibers. Films of PEDOT on PET can be obtained by placing strips (2 x 5 cm) of PET in aq. 1.0M CSA prior to addition of monomer.