Electronica Supplementary Information

Three-Dimensional (3D) Porous Graphene-Based Composite Materials: Electrochemical Synthesis and Application

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**Figure S1.** The optical image of ERGO@platinum foil.

**Figure S2.** Cyclic voltammogram of 0.5 M aniline in an aqueous solution containing 0.6 M H₂SO₄ with ERGO as working electrode at a scan rate of 50 mV s⁻¹. The curve was shown every ten cycles.
Figure S3. Raman spectrum of ERGO/PPy composite.

The Raman intensity is weak due to high roughness of the ERGO/PPy surface and low PPy content. However, three characterized Raman bands of PPy can be distinguished. The 1580 cm\(^{-1}\) band is assigned to the C= C stretching mode of PPy backbones, and the bands around 1383 cm\(^{-1}\) are associated with the ring stretching of PPy. Bands at 933 cm\(^{-1}\) is assigned to the ring deformation related to polarons.