Supplementary Materials

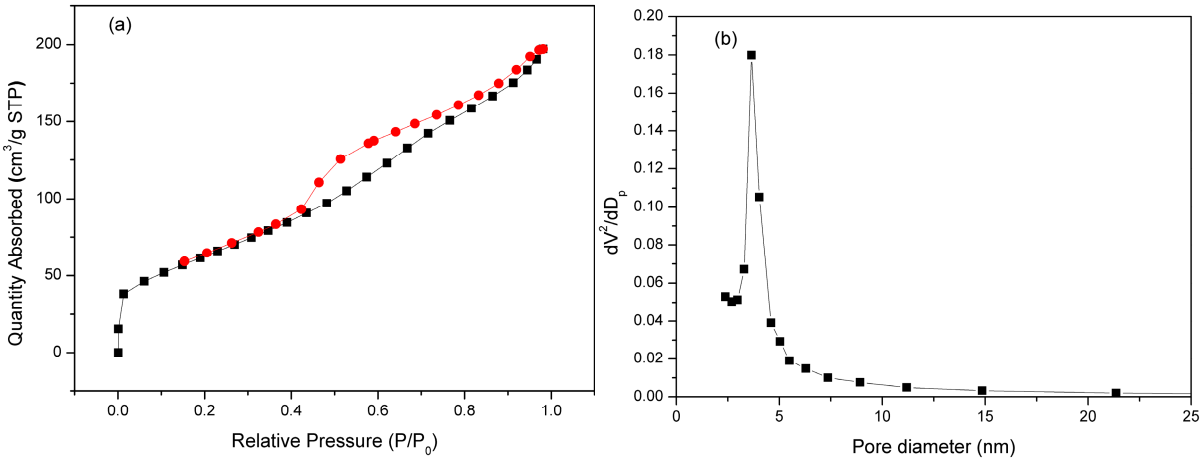

Figure S1. (**a**) N_2 adsorption/desorption isotherms and (**b**) Pore size distribution curves of MnO_2.

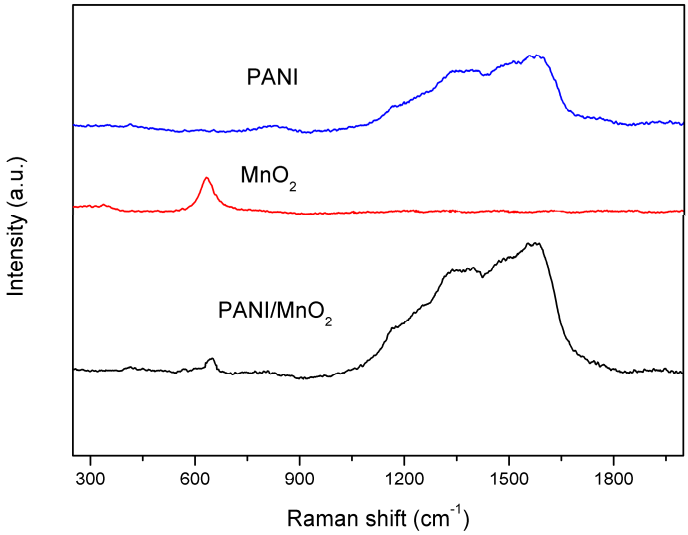

Figure S2. Raman spectroscopy of PANI, MnO_2, PANI/MnO_2

The N_2 adsorption/desorption isotherms and pore size distribution curves of MnO_2 was shown in Figure S1. As is shown in Figure 1a, it can be observed that the MnO_2 has a typical IV isotherm and display a distinct hysteresis loop of H1 in the range of 0.4–0.8 P/Po, indicating the presence of mesopores in the MnO_2 nanomaterial. The pore size distribution curves are exhibited in Figure 1b. It is easily found that the mean pore diameter of MnO_2 is 3.648 nm. The BET surface area of MnO_2 nanomaterial is 232.96 m^2/g.

Raman spectroscopy was employed to analyze the PANI, MnO_2, PANI/MnO_2 in Figure S2. The band which appears at 1170 cm^{-1} corresponds to the C–H bending. The peaks at 1333 and 1555 cm^{-1} can be assigned to the N–H bending and $C–N^+$ stretching vibrations, respectively. The presence of MnO_2 on the composites is confirmed by the slight peaks at 646 cm^{-1} (corresponding to the pure MnO_2), attributed to the Mn–O vibration. The decrease of the intensity may be due to the cladding of PANI.