Effect of pH to the Morphology of Co_3O_4/rGO and Sensitivity of Composite with H_2O_2

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Co_3O_4 is one of the most promising candidates among the transition metal oxide. As Co_3O_4 has specific capacity (more than 1000 $mAhg^{-1}$), many researches have been done on supercapacitors. Co_3O_4 is a p-type semiconductor with electrical conductivity highly sensitive and also has applications in sensor area. The research goal for sensors is to get a high surface area. In this work, we synthesized Co_3O_4/rGO (reduced graphene oxide) by simple hydrothermal method. The effect of pH on the morphology of final product is investigated in detail by XRD (X-ray diffraction), SEM (scanning electron microscopy, TEM (transmission electron microscopy), and FT-IR (Fourier transform infrared spectroscopy). The different sensitivity to H_2O_2 is checked by CV (cyclic voltammogram).