

Supplementary Information

Facile spectroscopic approach for optoelectronic properties of few-layered graphene oxide thin films and its role in photocatalysis as composite with RF sputtered ZnO

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S.1 Analysis of ZnO over rGO

S.1.1 X-ray diffraction

The XRD analysis was carried out for the confirmation of deposited ZnO over the rGO. The Fig. S1 shows the observed diffraction pattern of ZnO/rGO. The XRD pattern clearly reveals deposition of ZnO over the rGO. The peak at 2θ of rGO (pure rGO) shifted from 23.52 to 24.67 after the deposition of ZnO over the rGO thin film. The shifting of diffraction peak also suggests the intercalation and adsorption of zinc ion into the rGO sites. The ZnO peaks are well matched with the JPCD card # 01-070-8072.

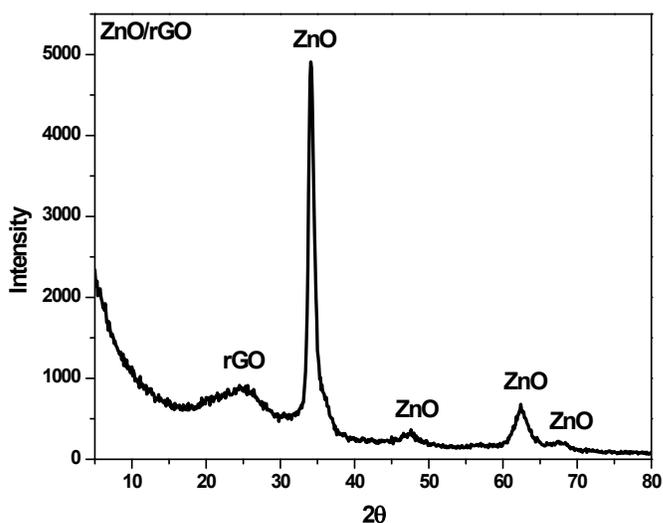


Figure S1: XRD pattern of rGO/ZnO thin film

1.2 Field emission scanning electron microscope

The field emission scanning electron was also used for cross verification of ZnO thin films deposition over rGO. **Fig. S2** shows the uniform deposition of ZnO over the rGO with the average particle size about 10 nm. rGO sheets can easily be seen under the ZnO deposition.

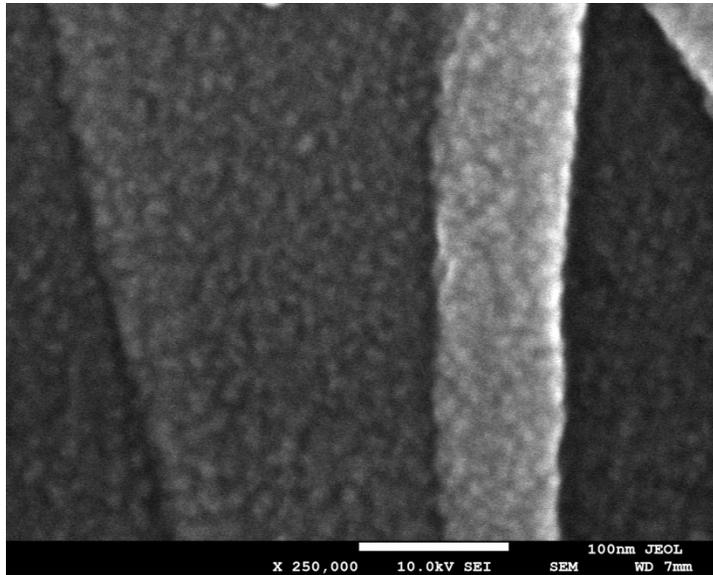


Figure S2: FESEM micrograph of rGO/ZnO thin film