Electronic Supplementary Information for the Manuscript

Graphene-TiO$_2$ Nanocomposite Photocatalysts for Selective Organic Synthesis in Water under Simulated Solar Light Irradiation

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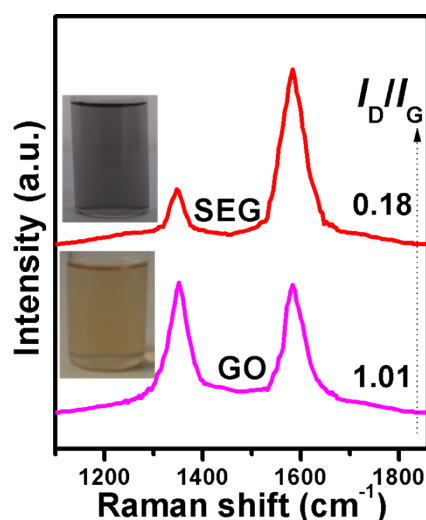
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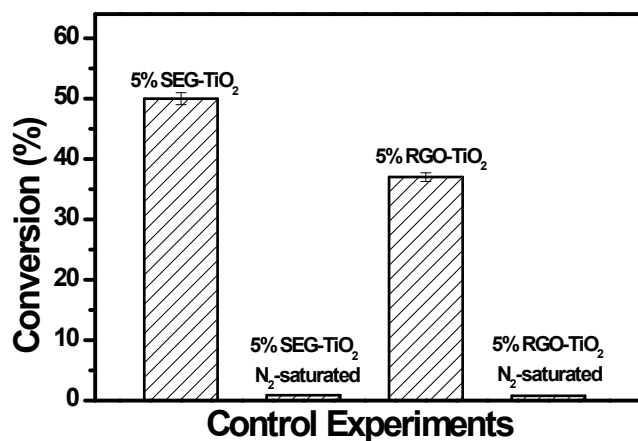
Fig. S1 The results of photocatalytic selective oxidation of benzyl alcohol over the optimal 5% SEG-TiO$_2$ and 5% RGO-TiO$_2$ under O$_2$ and N$_2$ atmosphere.

Fig. S2 Raman spectra of SEG and GO; inset are the corresponding photograph dispersions of SEG and GO in water at 0.3 mg·mL^{-1}.

Note: Raman spectroscopy has been proven to be a valuable tool to characterize the nanostructures of carbon based nanomaterials. The structure around 1350 cm^{-1} is called the "D band" and is related to scattering from local defects or disorders present in the GR sample.[S1-S3] The peak at 1580 cm^{-1} is referred to as the "G band" and it originates from the in-plane tangential stretching of the C-C bonds in the graphitic structure.[S1-S3] The intensity ratio of the D and G bands (I_D/I_G) is a measure of the relative concentration of local defects or disorders (particularly the sp^3 hybridized defects) compared to the sp^2 hybridized graphene domains.

References:

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