

Oxygen functionalities of graphene oxide: effects on the formation of nanoparticles on graphene

(Supporting Information)

Yansong Zhou, Gang Chen,* Yaoguang Yu, Linxing Hao, Zhonghui Han and Qilin Yu

Department of Chemistry, Harbin Institute of Technology, Harbin, 150001, PR China.

E-mail: gchen@hit.edu.cn; Fax: +86-451-86403117; Tel: +86-451-86403117;

zys2011s@sina.com

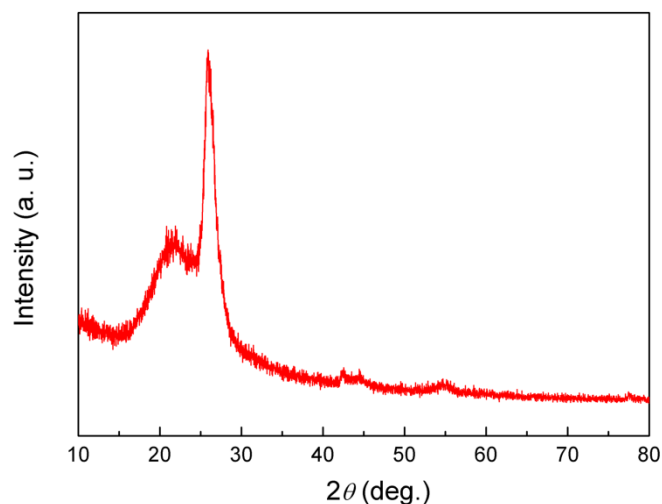


Fig. S1 XRD pattern of mGO. A broad peak at 21.5° corresponds to the low oxygenated level of graphite. A sharp peak at about 24.6° indicates the incompletely oxidation of graphite during the oxidation process.

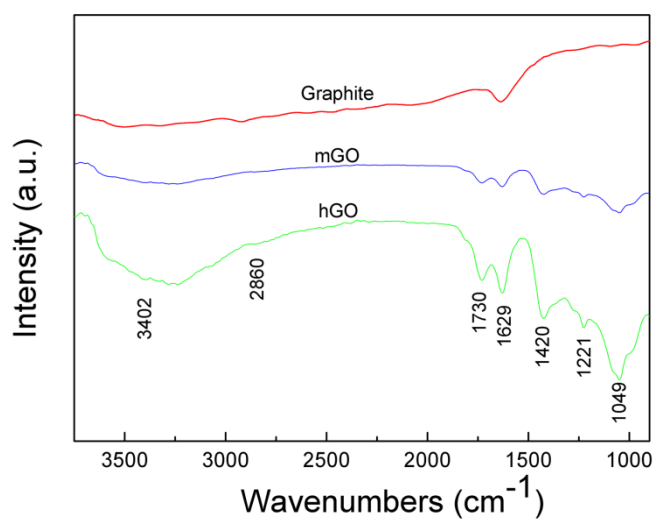


Fig. S2 FTIR spectra of graphite, mGO and hGO. The different intensity of peaks between the mGO and hGO indicates the difference oxygenated levels between mGO and hGO. Only a clear peak at 1629 cm⁻¹ corresponds to the aromatic structure of graphite.

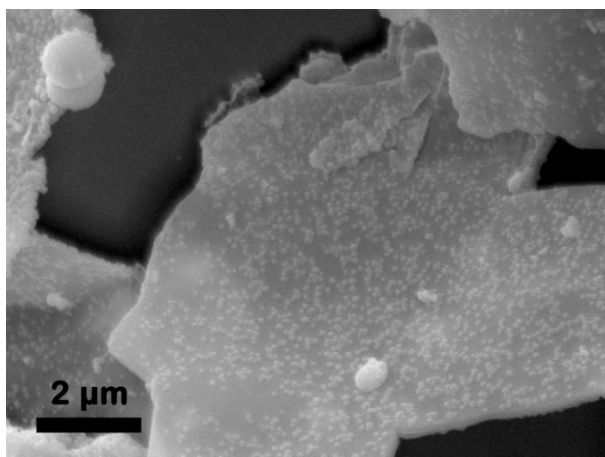


Fig. S3 SEM image of Cu₂O/rmGOs. Cu₂O particles spread uniformly on the mGO sheet surface and few microspheres connecting to mGO directly surface were also observed.

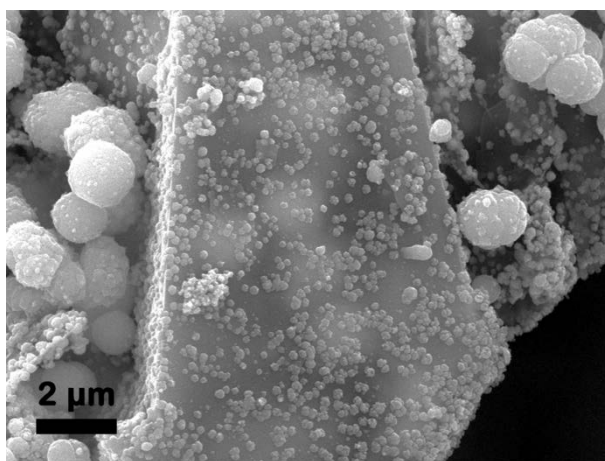


Fig. S4 SEM image of Cu₂O/PG. Homogeneously Cu₂O particles covered graphite sheet was shown. No Cu₂O microspheres that connected directly to graphite sheet were observed. However, a lot of individual Cu₂O microspheres were also shown in this sample.

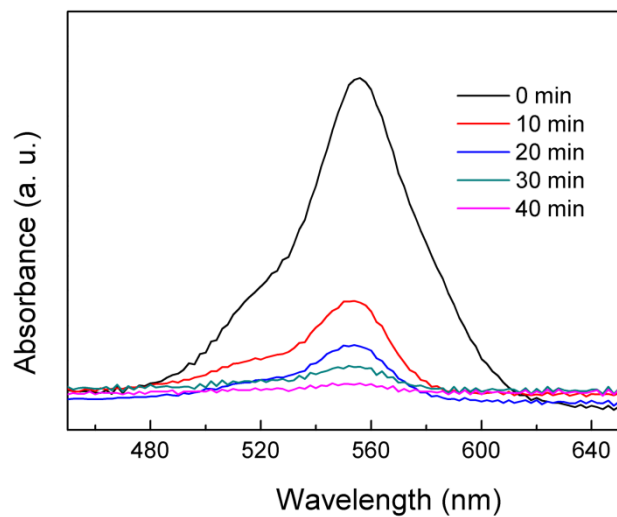


Fig. S5 Temporal UV-vis absorption spectral changes observed for the RhB solution. The absorbance rapidly decreased, indicating RhB was degraded gradually as the reaction time prolonged.