

Supporting Information

N-doped graphene decorated three-dimensional CuO nanowire network and its application to photocatalytic degradation of dyes

Liqiang Zhang,^{1,2} Zhenfei Gao,^{1,2} Chao Liu,¹ Liang Ren,¹ Zhiqiang Tu,¹ Rui Liu,³ Fan Yang,¹ Yunhan Zhang,¹ Zhizhen Ye,⁴ Yongfeng Li,^{1*} and Lishan Cui^{1,2*}

¹ State Key Laboratory of Heavy Oil Processing, China University of Petroleum, Beijing 102249, China.

²Department of Materials Science and Engineering, China University of Petroleum, Beijing 102249, China.

³State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China.

⁴State Key Laboratory of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, P. R. China.

Email: yfli@cup.edu.cn; lishancui63@126.com

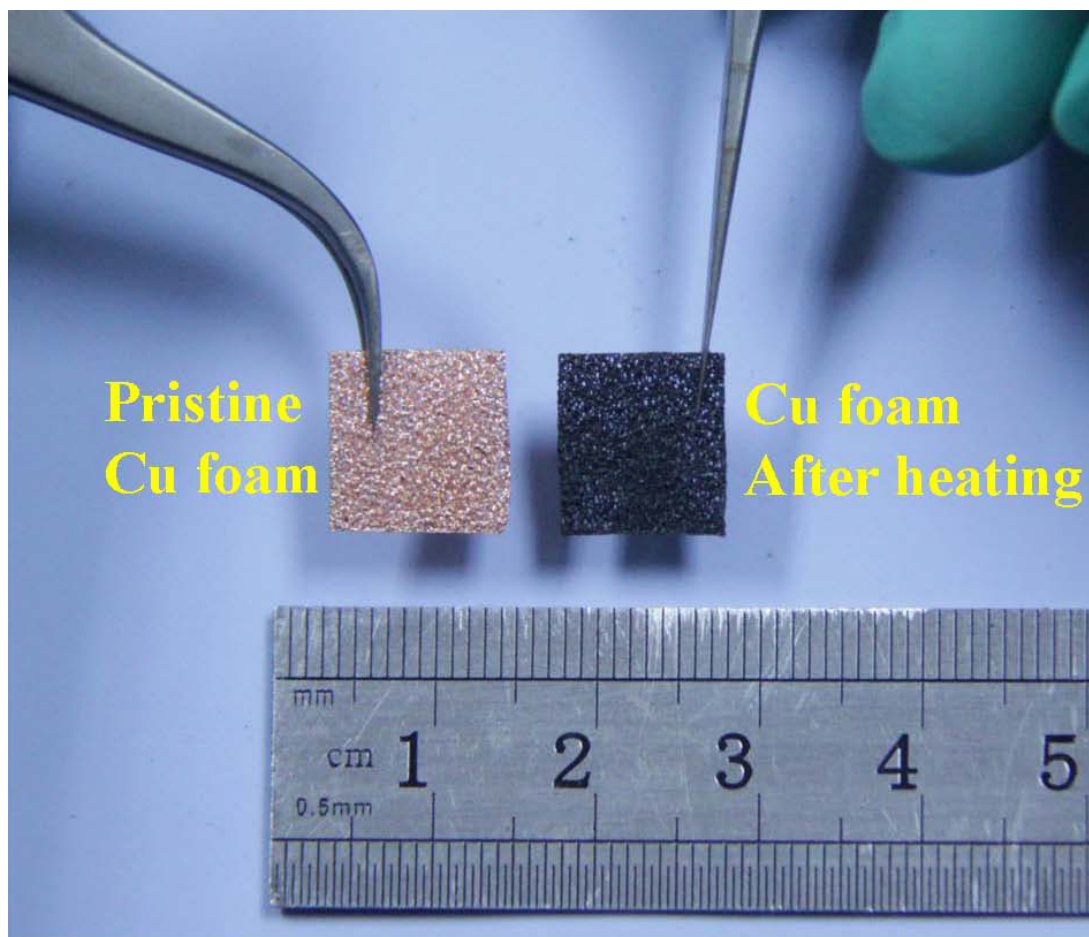


Fig. S1. (Color online) The photograph of the pristine Cu foam and the Cu foam after heating for 12 h.

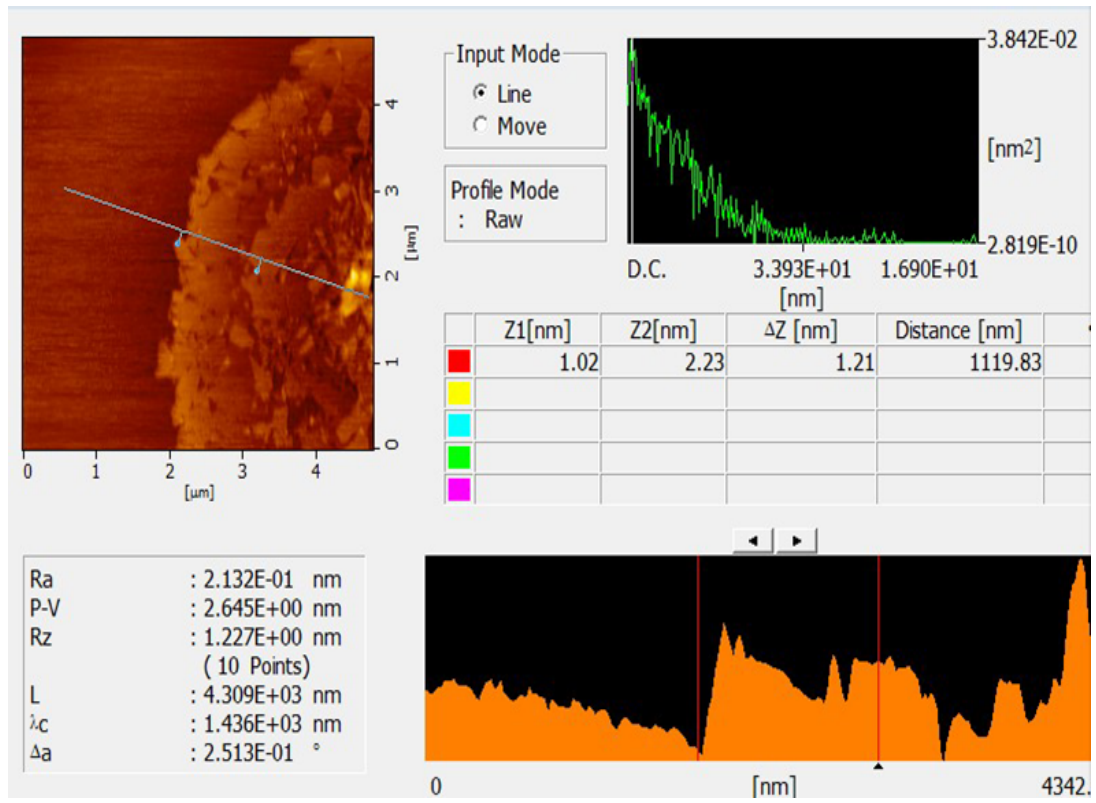


Fig. S2. (Color online) The AFM image of the reduced graphene oxide

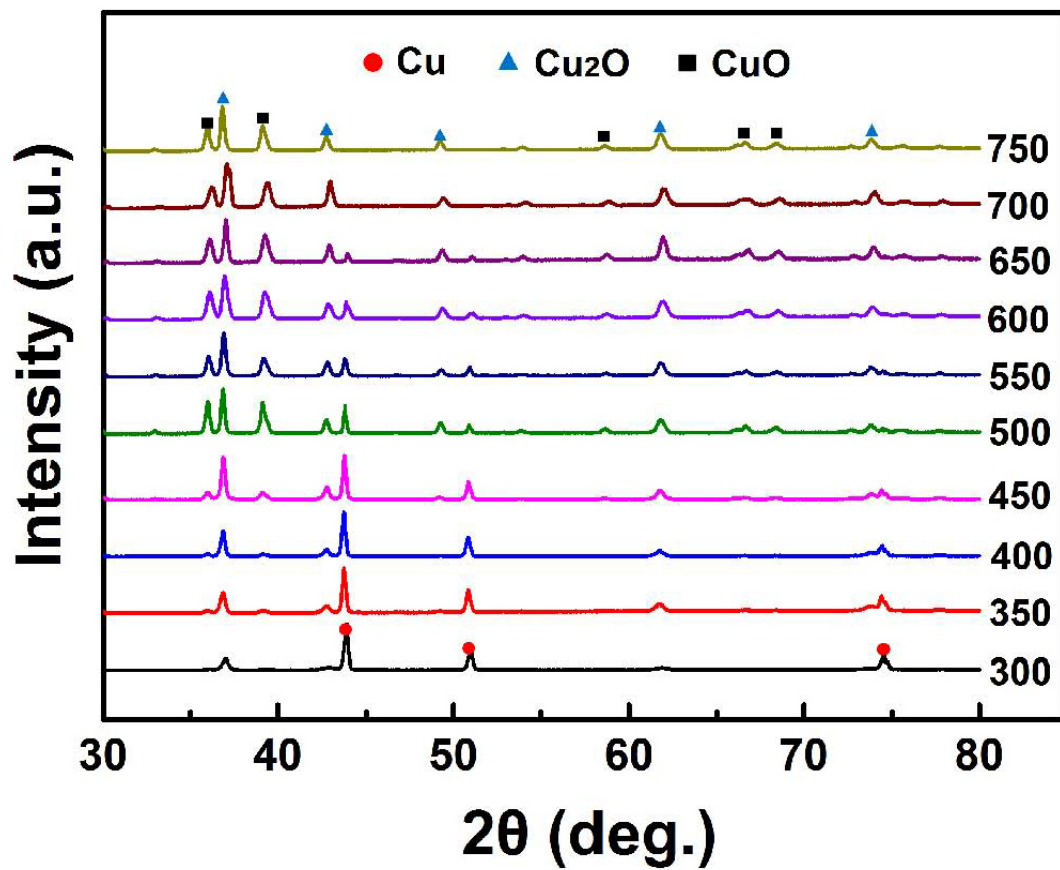


Fig. S3. (Color online) The XRD patterns of Cu foam after heating at 300-750 °C for 12 h.

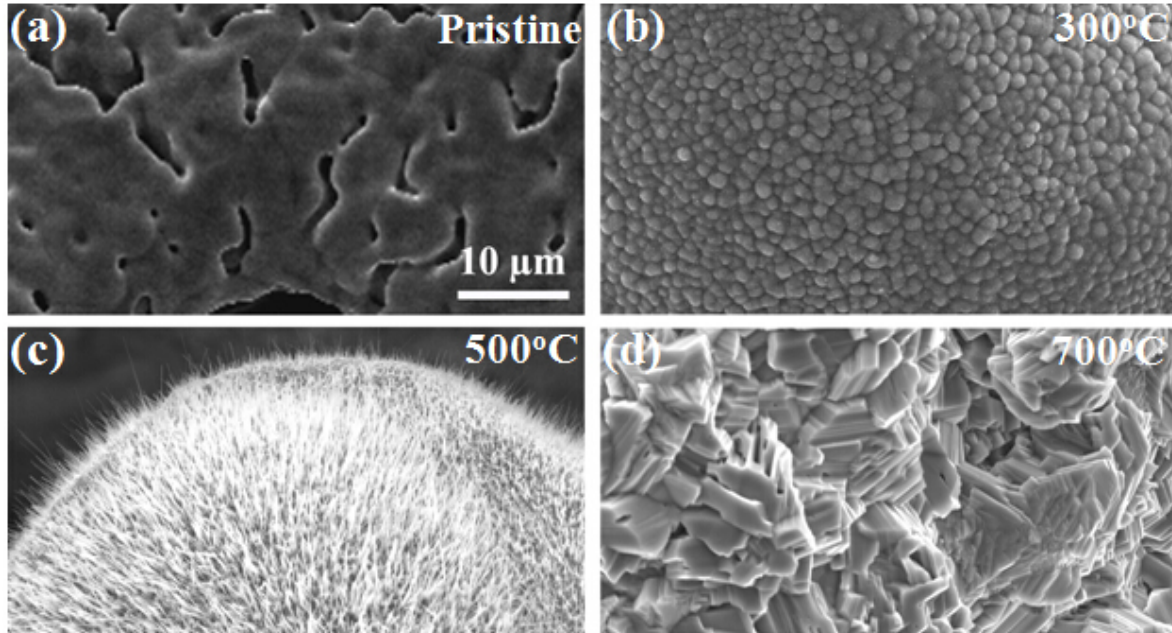


Fig. S4. (Color online) The surface morphologies of the pristine Cu foam, and the Cu foam heated at 300, 500, and 700 °C, respectively.

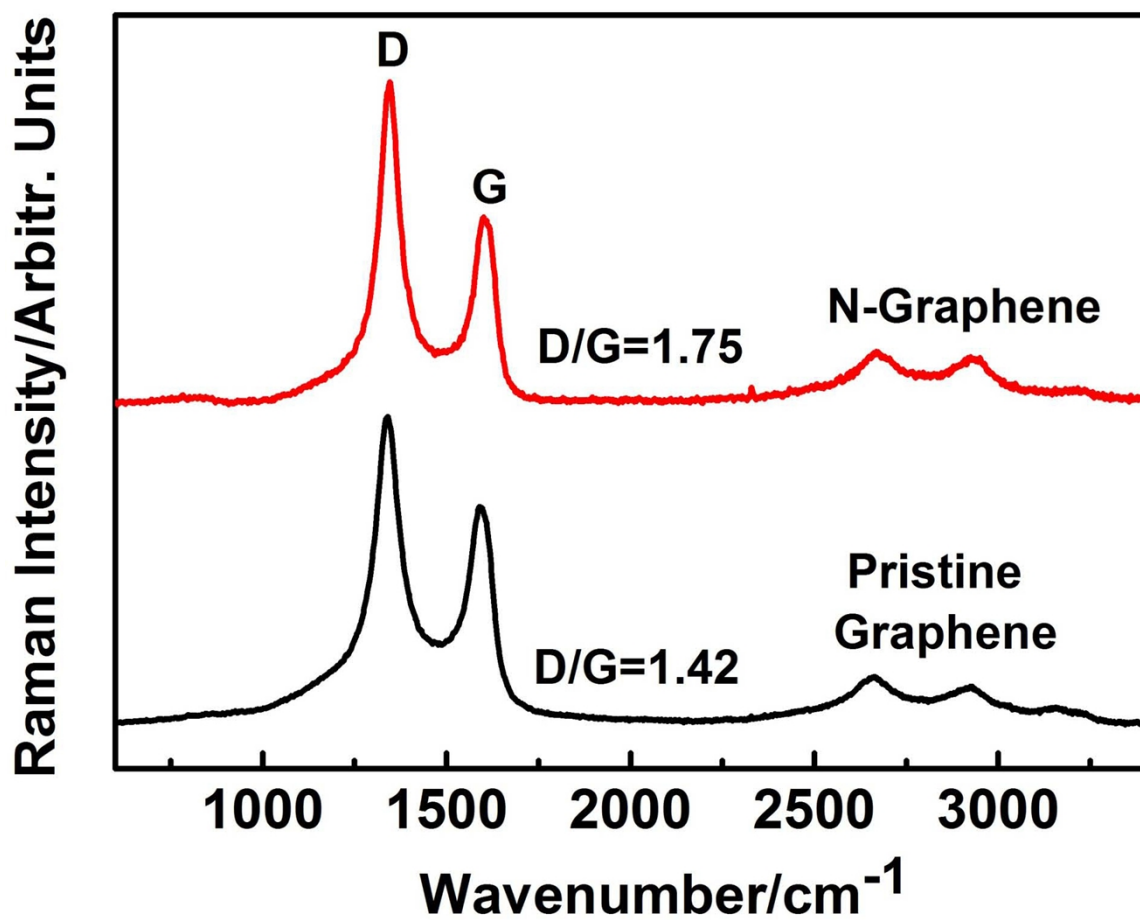


Fig. S5. (Color online) The 532 nm Raman spectrum of the graphene coated CuO NW and nitrogen-doped nanoporous graphene decorated CuO NW.

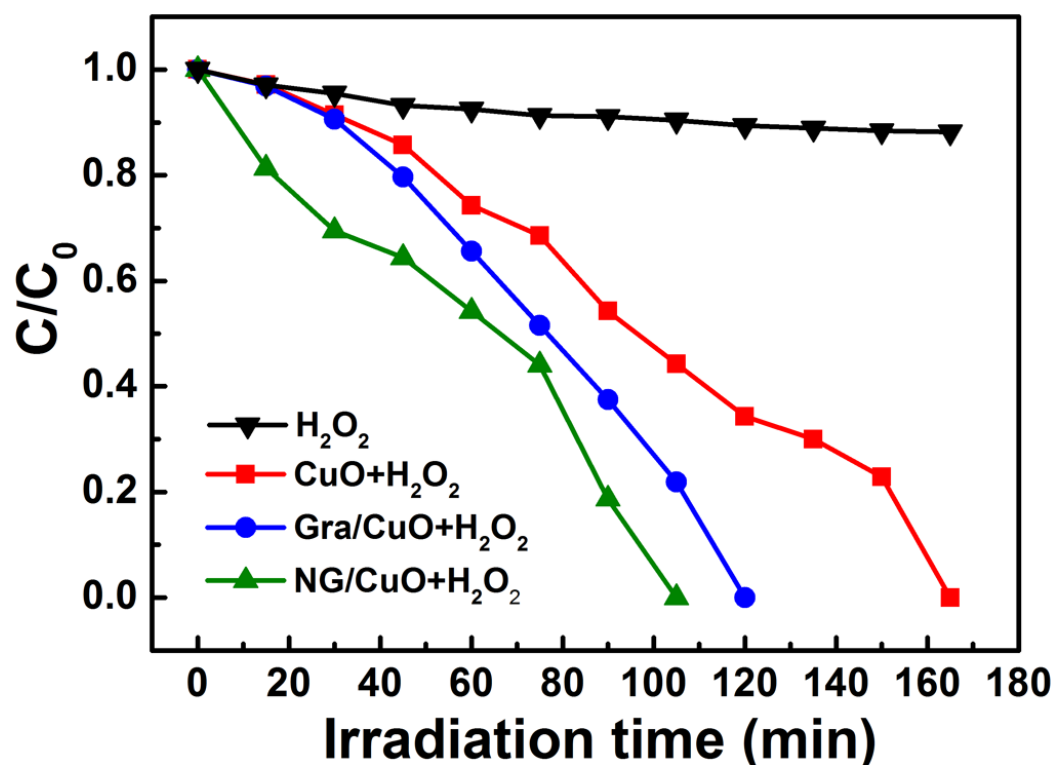


Fig. S6. (Color online) The methyl orange degradation rates of CuO, Gra/CuO, NG/CuO in the existence of H_2O_2 by using a filter of 400 nm.