Supplementary materials

Monodisperse Cu/Cu_2O@C Core-Shell Nanocomposite Supported on rGO Layers as An Efficient Catalyst Derived from Cu-Based MOFs/GO Structure

Ke YANG,*[a†] Yu YAN, [a†] Haiyang WANG, [a] Zhixuan SUN, [a] Wen CHEN, [a] Hongtao KANG, [a] Yi HAN, [a] Wenquan ZAHNG, [a] Xiaohua SUN, [a] and Zhenxing LI *[a]

a State Key Laboratory of Heavy Oil Processing, Institute of New Energy, China University of Petroleum-Beijing , Beijing, 102249, P. R. China.

† These authors contributed equally.

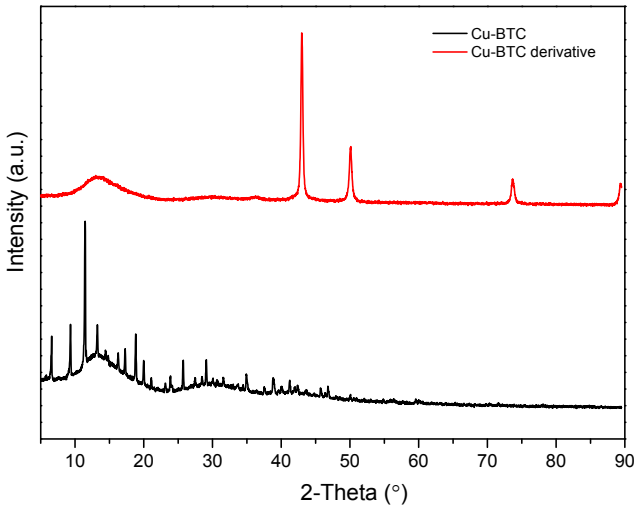

Figure 1s The XRD pattern of Cu-BTC and Cu-BTC derivative.

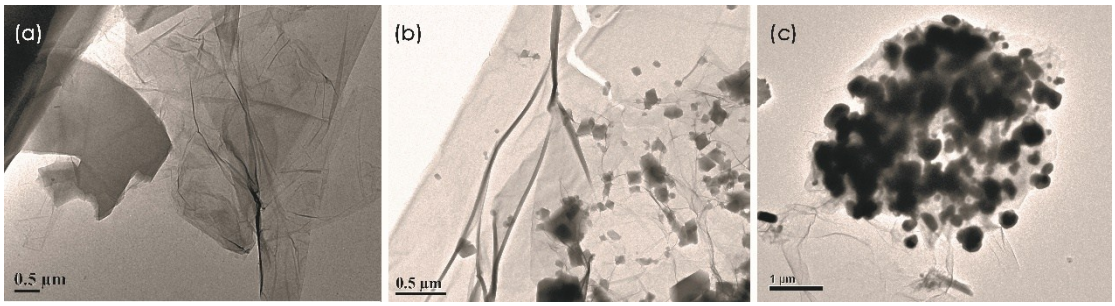

Figure 2s TEM images of (a) GO sheets, (b) Cu-BTC/GO and Cu-BTC derivative under N_2 atmosphere.

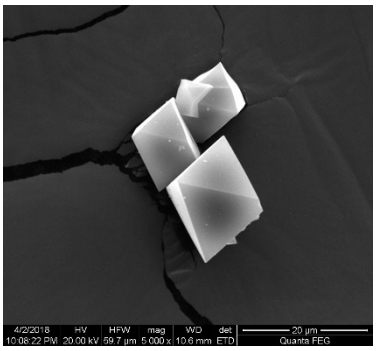

Figure 3s SEM image of virgin Cu-BTC crystal.

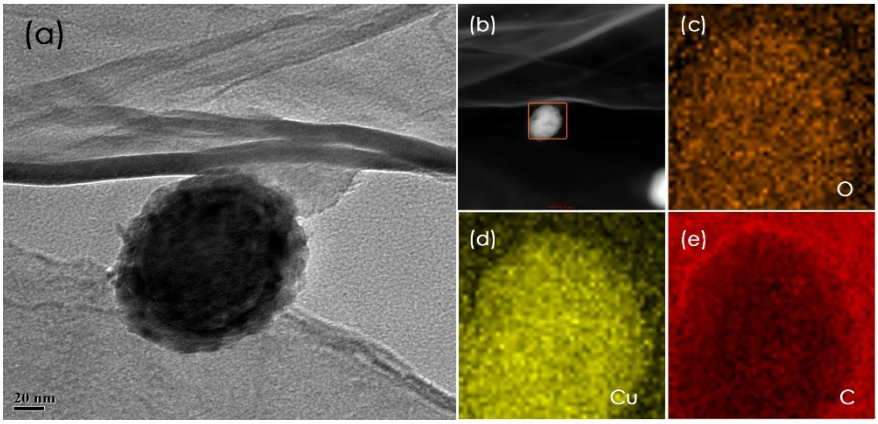

Figure 4s TEM (a), HAADF (b) and EDS mapping (c-d) images of Cu/Cu2O@C-rGO composite

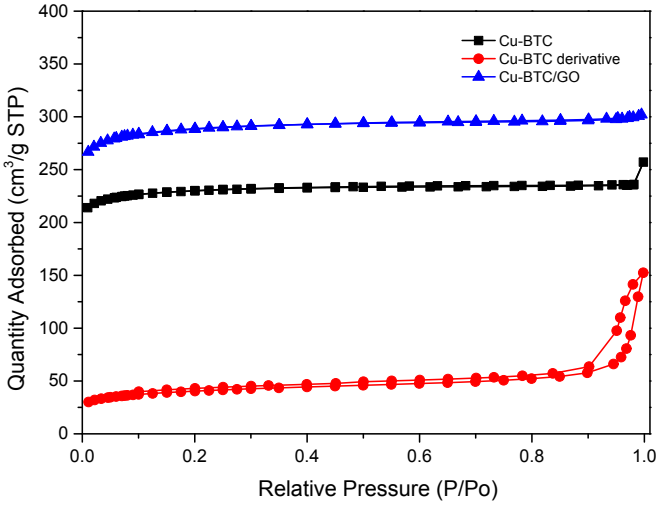

Figure 5s N_2 adsorption-desorption isotherm of Cu-BTC, Cu-BTC/GO and Cu-BTC derivative.

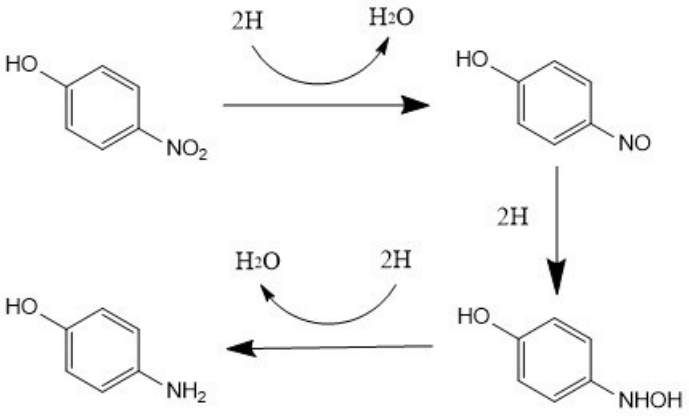

Figure 6s The three sequential steps of 4-NP to 4-AP.

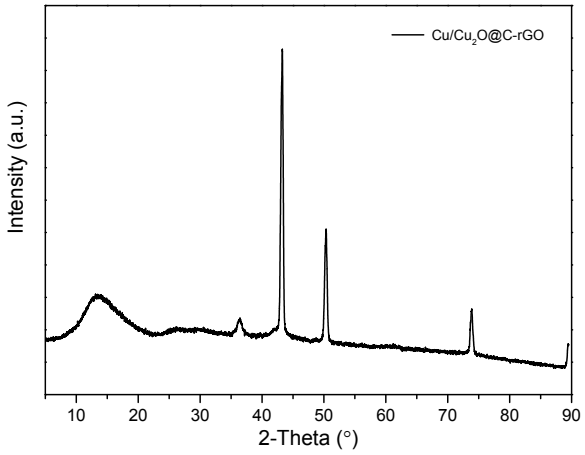

Figure 7s The XRD pattern of Cu/Cu_2O@C-rGO composite that exposed to the air for more than a month.

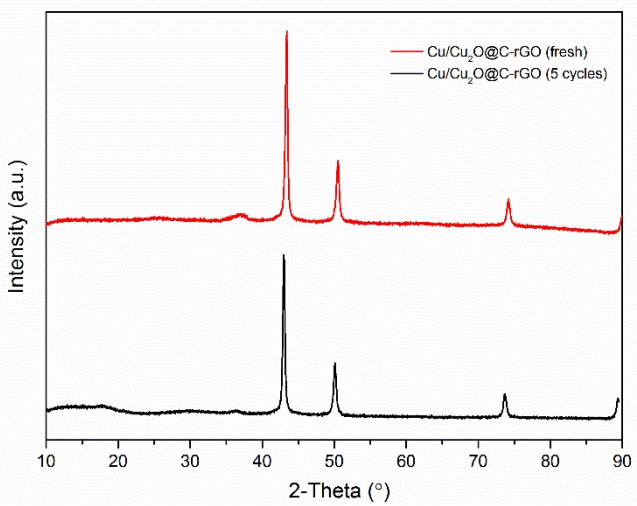

Figure 8s The XRD pattern of Cu/Cu_2O@C-rGO composite before (red) and after (black) 5 cycles catalytic reaction test.

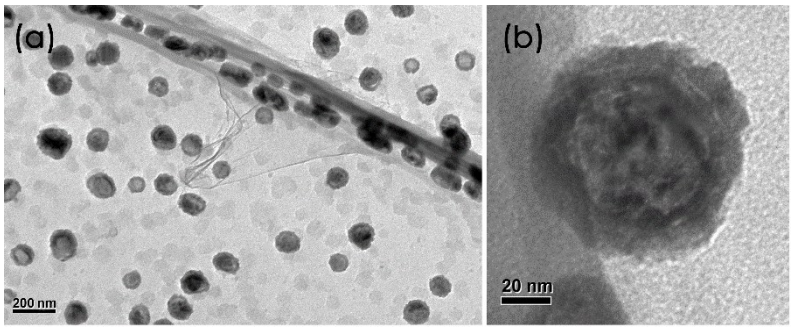

Figure 9s TEM (a and b) images of Cu/Cu_2O@C-rGO composite after five cycling catalytic reaction test.

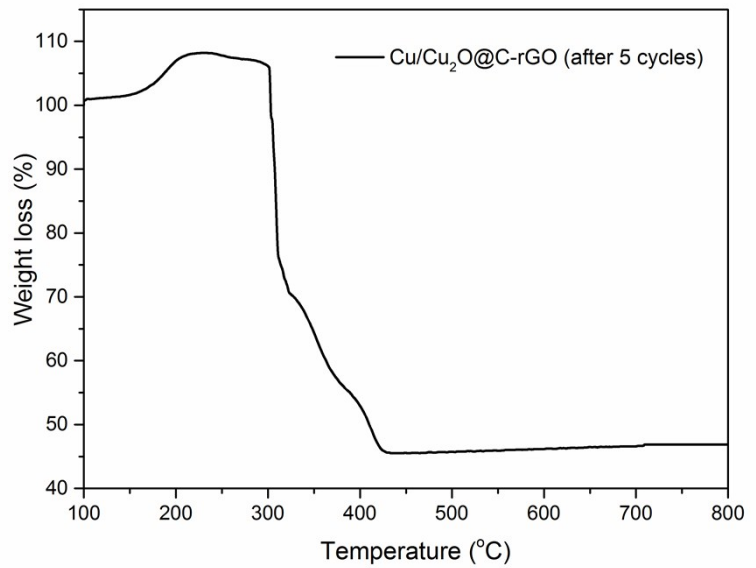

Figure 10s The TG curve of Cu/Cu_2O@C-rGO composite after five cycling catalytic reaction test.