

## Supporting Information

*In situ* generation of ultrasmall sized and highly dispersed CuO nanoparticles embedded in silica matrix and their catalytic application

Lin Xu, Jiajia Zhang, Zhenhui Li, Qinghai Ma, Yan Wang, Fang

Cui\* and Tieyu Cui\*

*School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150080, China*

---

\*Corresponding author. Tel.: (+86)451-86403646

E-mail address: [cui Fang@hit.edu.cn](mailto:cui Fang@hit.edu.cn); [cui Tieyu@hit.edu.cn](mailto:cui Tieyu@hit.edu.cn)

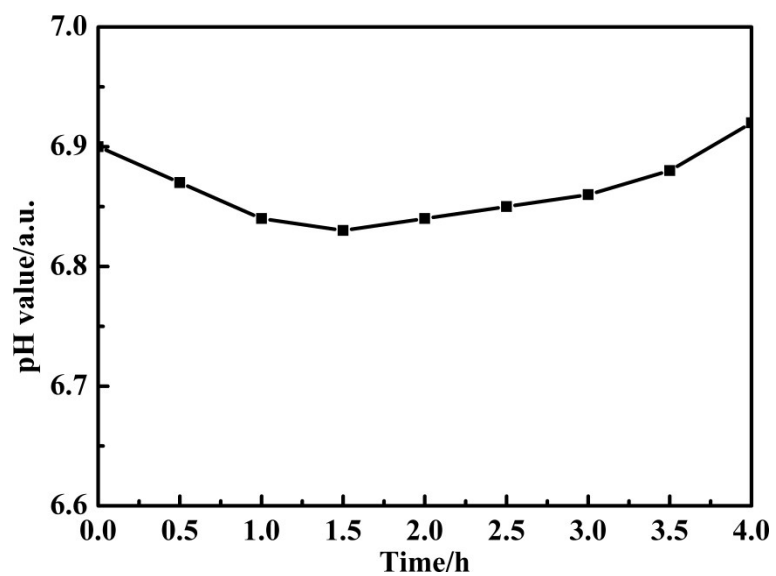


Figure S1 The pH change in the whole process of route for fabricating CuBA@SiO<sub>2</sub> nanocomposites

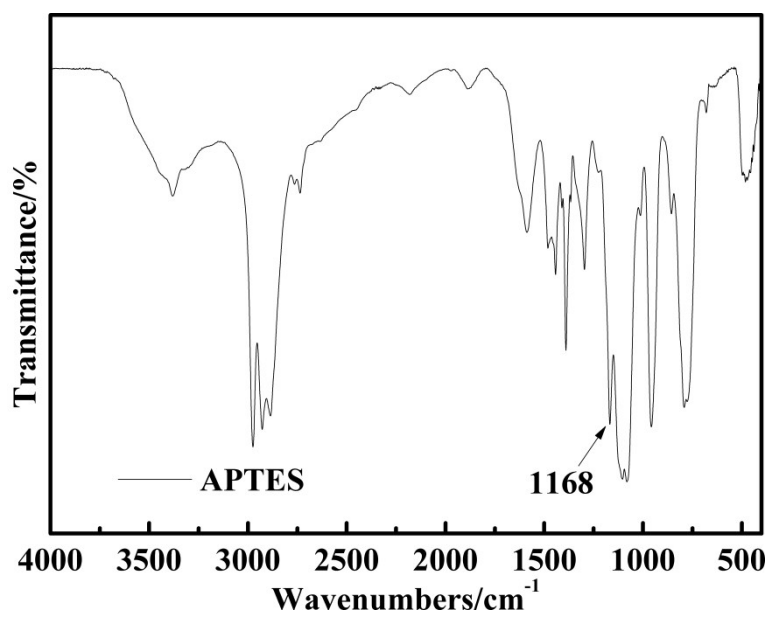


Figure S2 FT-IR spectrum of APTES

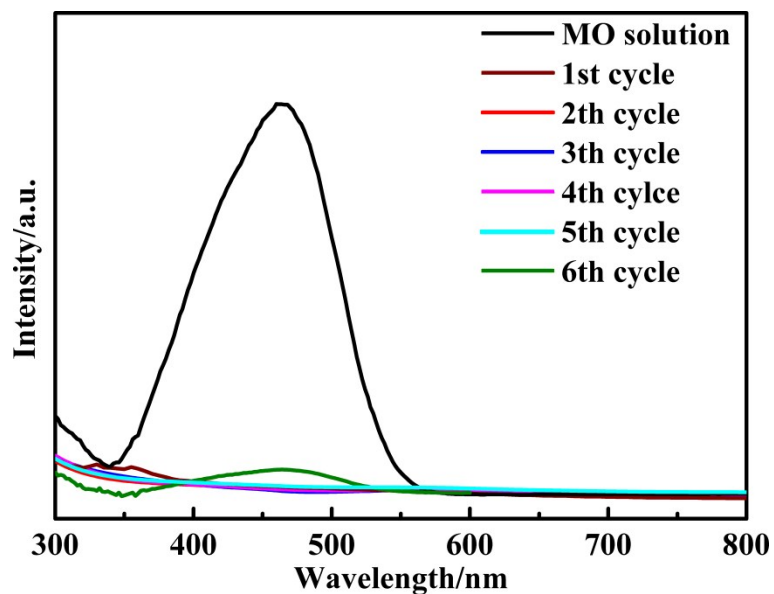


Figure S3 UV-Vis spectra of mixture solution of MO dye and NaBH<sub>4</sub> in presence of CuO@SiO<sub>2</sub> catalyst in different cycles

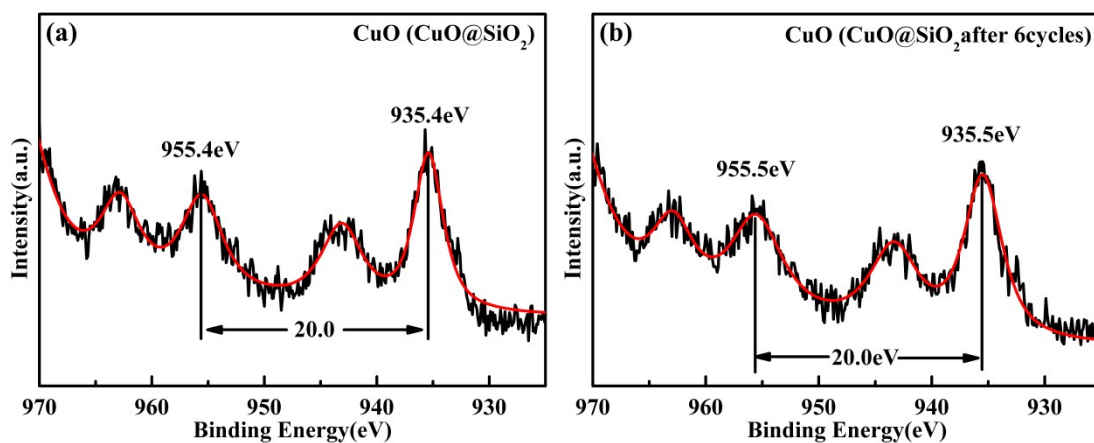


Fig.S4 XPS spectra of CuO@SiO<sub>2</sub> nanocomposites: before (a) and after (b) the reducing experiment.