Electronic Supplementary Information

Fabrication of hollow Cu_2O@CuO-supported Au-Pd alloy nanoparticles with high catalytic activity through the galvanic replacement reaction

Wang Yao,[a] Fei-Long Li,[a] Hong-Xi Li,*[,a] and Jian-Ping Lang*[,a,b]

[a]College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou 215123, P. R. China

[b]State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 210032, P. R. China

Table of Contents

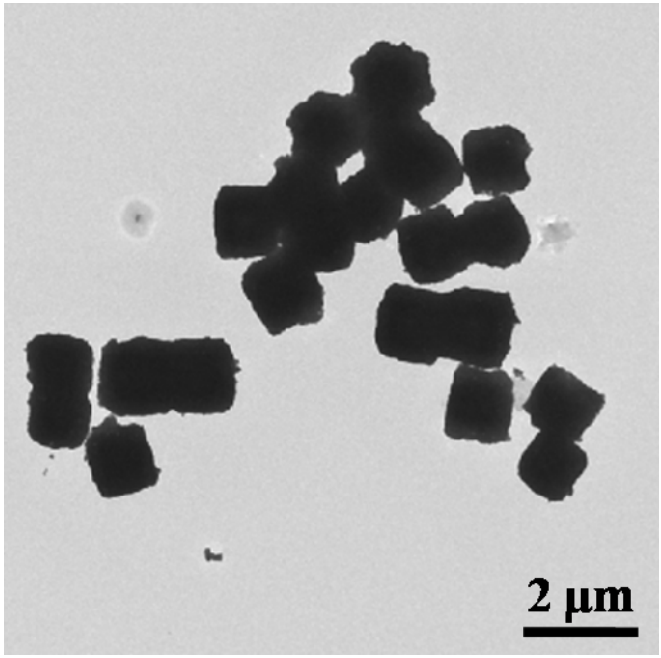

Fig. S1 TEM image of CuO cubes.

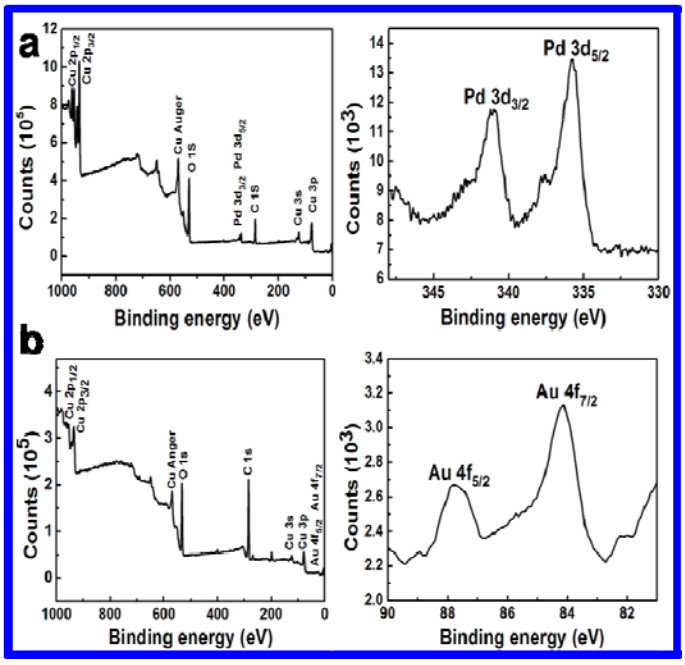

Fig. S2 XPS spectra of Cu_2O-CuO/Pd (a) and Cu_2O-CuO/Au (b).

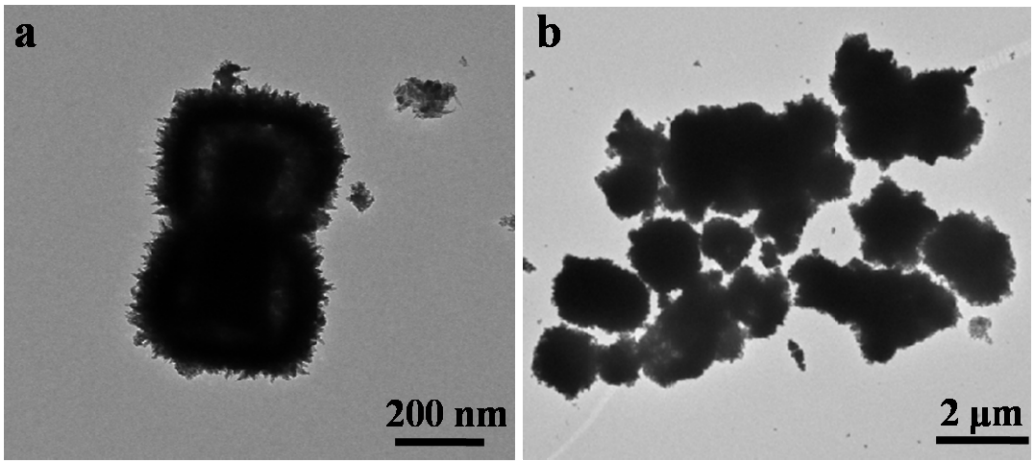

Fig. S3 TEM images of Cu_2O-CuO/(Au-Pd) with different metal precursors of $Au(Ac)_3$ and $Pd(Ac)_2$·(a)·and $HAuCl_4$ and$PdCl_2$ (b).

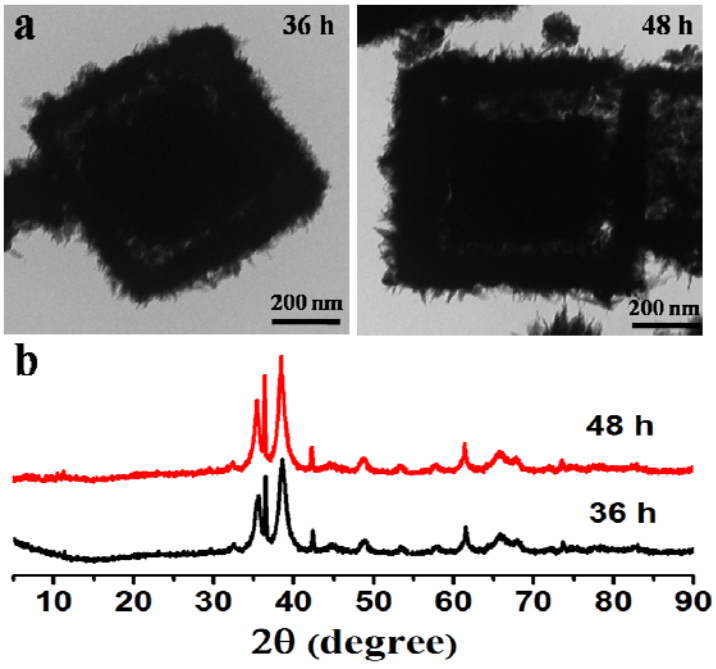

Fig. S4 The TEM images (a) and PXRD patterns (b) of Cu_2O@CuO/(Au-Pd) after 36 h and 48 h.

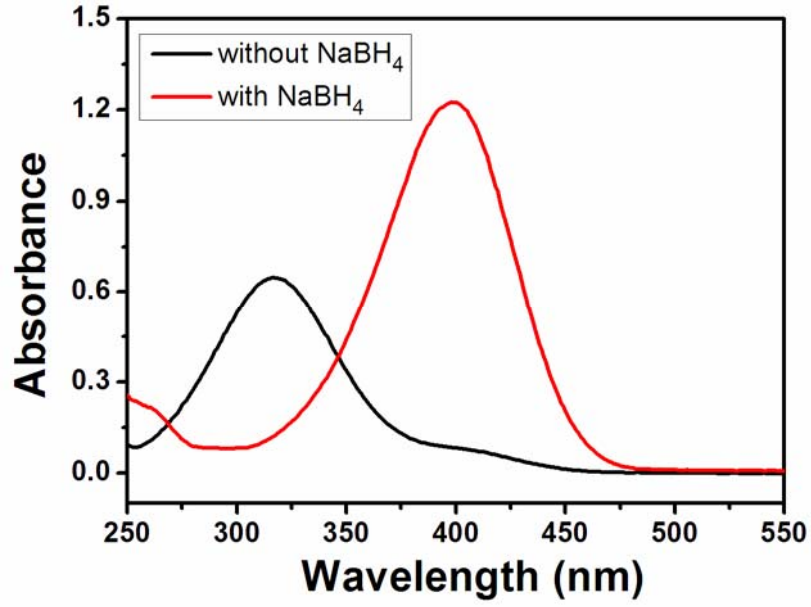

Fig. S5 UV-vis spectra of 4-NP before and after addition of a $NaBH_4$ solution.

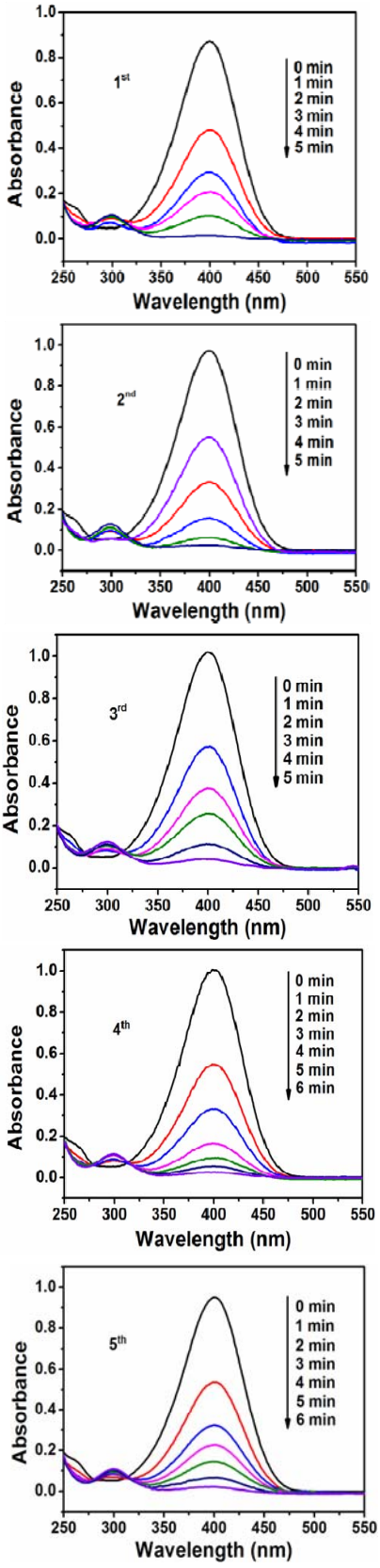

Fig. S6 Successive UV-Vis absorption spectra showing 1st, 2nd, 3rd, 4th and 5th runs of the catalytic reduction of 4-NP over Cu_2O@CuO/(Au-Pd) catalyst.

Table S1 The ICP data of CuO-Cu_2O/Au, CuO-Cu_2O/Pd and Cu_2O@CuO/(Au-Pd).

Sample	Cu (wt%)	Au (wt%)	Pd (wt%)
CuO-Cu_2O/Au	52.8	2.82	—
CuO-Cu_2O/Pd	59.3	—	3.57
Cu_2O@CuO/(Au-Pd) (24h)	45.4	1.69	1.83
Cu_2O@CuO/(Au-Pd) (36h)	68.5	1.77	1.92
Cu_2O@CuO/(Au-Pd) (48h)	60.7	1.74	1.88