Electronic supplementary information (ESI)

Hierarchical Au-CuO Nanocomposite from Redox Transformation Reaction for Surface Enhanced Raman Scattering and Clock Reaction

Jaya Pal, a Mainak Ganguly, a Soumen Dutta, a Chanchal Mondal, a Yuichi Negishi b and Tarasankar Pal a*

a Department of Chemistry, Indian Institute of Technology, Kharagpur-721302, India

b Department of Applied Chemistry, Tokyo University of Science, Tokyo 1628601, Japan

E-mail: tpal@chem.iitkgp.ernet.in

Figure S1. DRS spectra of (a) as-prepared Cu$_2$O sphere and (b) Au-CuO nanocomposite.
Figure S2. EDX analysis of (a) as-prepared Cu$_2$O sphere and (b) Au-CuO nanocomposite.
Figure S3. Line mapping of a single tip of Au-CuO nanoflower (a) for the element Cu(b), O(c) and Au(d).
Figure S4. SERS spectra of (b) $10^{-5}$ M Cu$_2$O nanoparticle, (c) $10^{-5}$ M Au NP and (a) NRS spectrum of 4-ATP (0.1 M).
Figure S5. Comparative study of change of absorption spectra of MB by using various reducing agents e.g. (a) hydrazine hydrate, (b) glucose and (c) NaBH₄.
Figure S6. Comparative study of clock reaction of MB by using (a) CuO and Cu(0).
Figure S7. (a) XRD pattern and (b) TEM image of Au-CuO nanocomposite after the catalytic cycle.