

[Supporting Information]

**Fabrication of Nanoporous Superstructures through Hierarchical Self-
Assembly of Nanoparticles**

Minjung Kim, Gyoung Hwa Jeong, Kang Yeol Lee, Kihyun Kwon, and Sang Woo Han*

*Department of Chemistry, Research Institute of Natural Science, and Environmental
Biotechnology National Core Research Center, Gyeongsang National University, Jinju
660-701, Korea*

E-mail: swan@gnu.ac.kr; Fax: +82-55-7610244

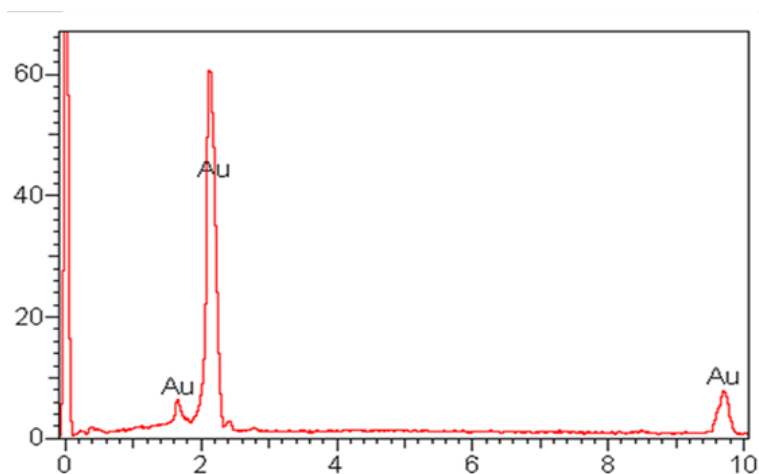


Fig. S1. EDS spectrum of the nanoporous gold thin films.

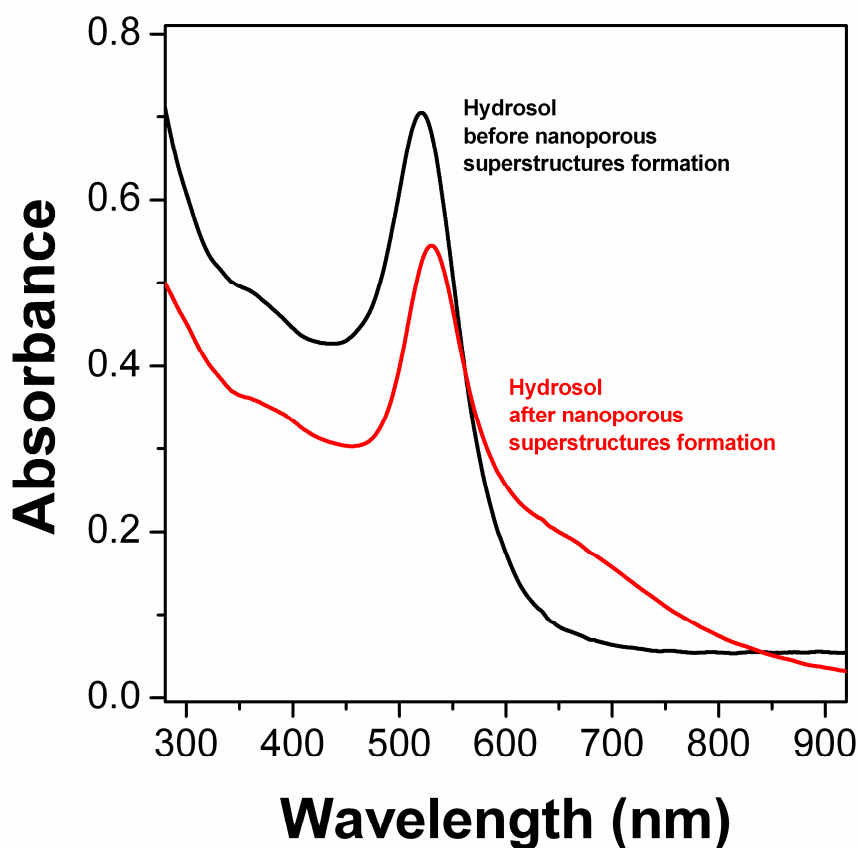


Fig. S2. UV-vis spectra obtained from the gold hydrosol before and after a prolonged (~ 1 week) reaction. The strong surface plasmon peak at 524 nm in as-prepared hydrosol indicates an average nanoparticle size of ~20 nm. Remnant hydrosol after the formation of nanoporous gold structures (and removal) show a lower intensity plasmon peak because of nanoparticle exhaustion. From the comparison of peak areas between two spectra, the yield for the formation of nanoporous structures from gold nanoparticles was estimated to be ca. 40%.

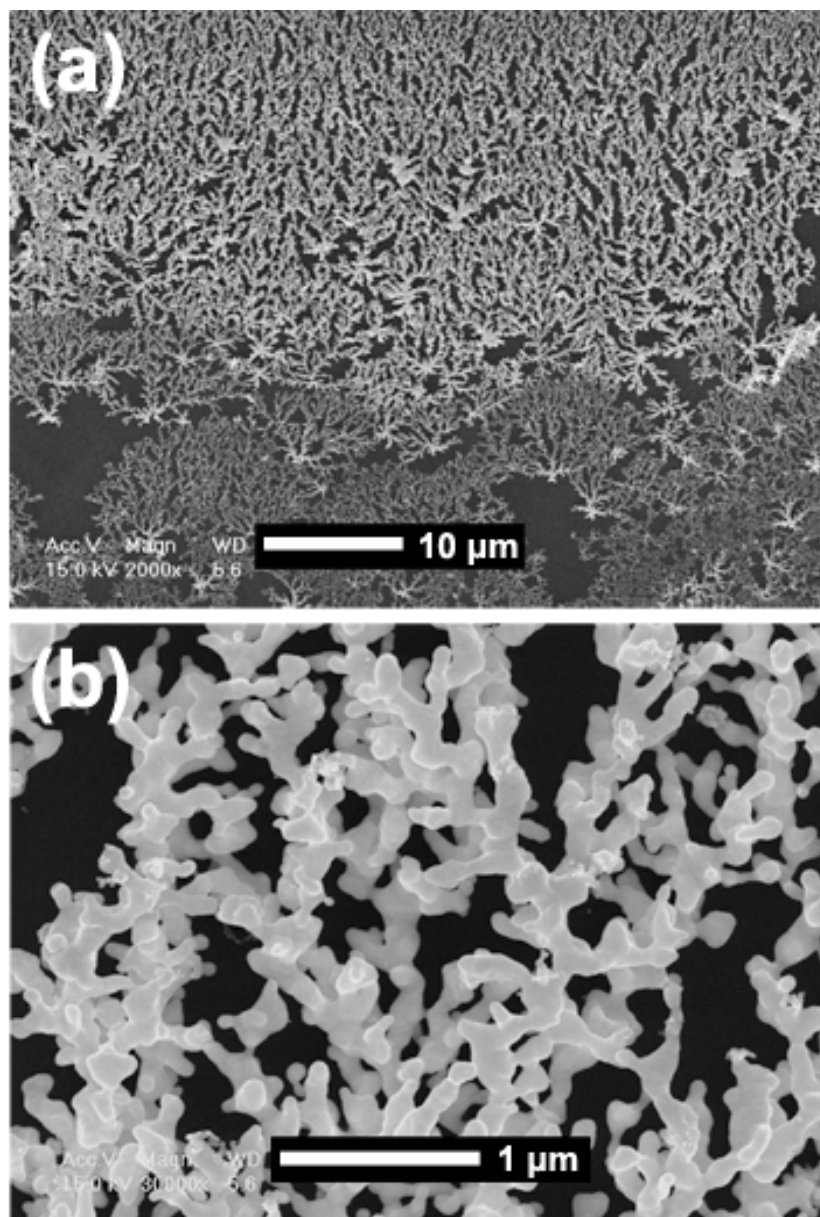


Fig. S3. (a) Low- and (b) high-magnification SEM images of the tree-like dendritic nanoparticle assemblies formed when excess of citrate (15 mM) was added to the gold hydrosol.

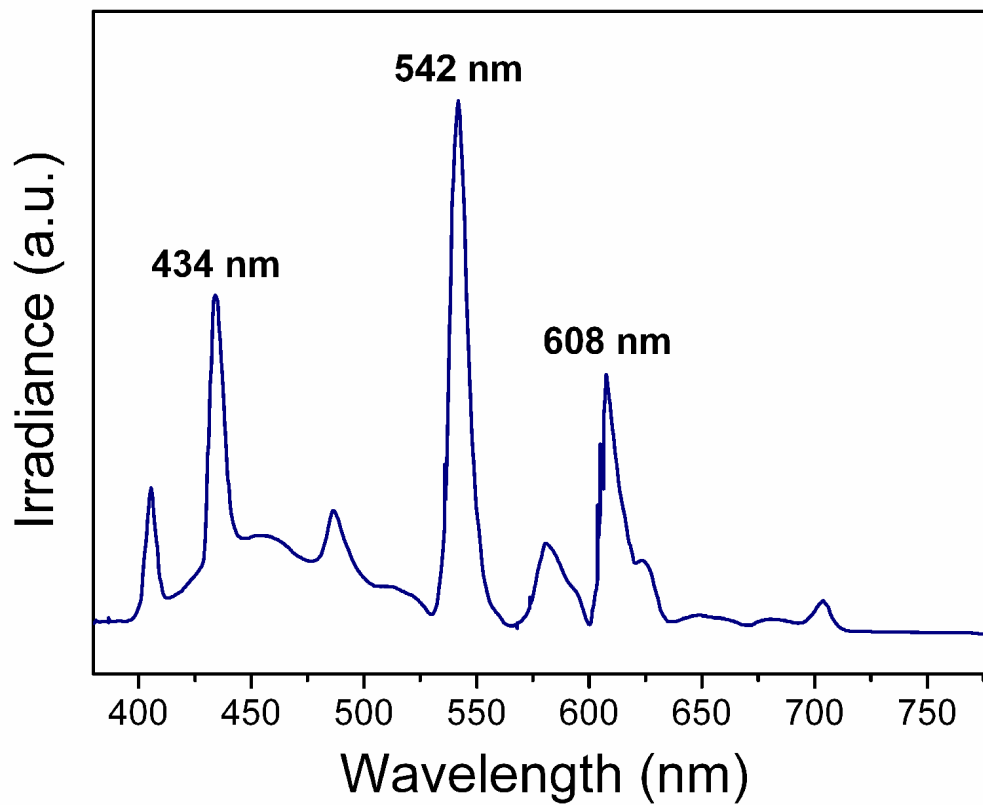


Fig. S4. The emission spectrum of the fluorescent light tube (45 W, white daylight type) used in the experiments.

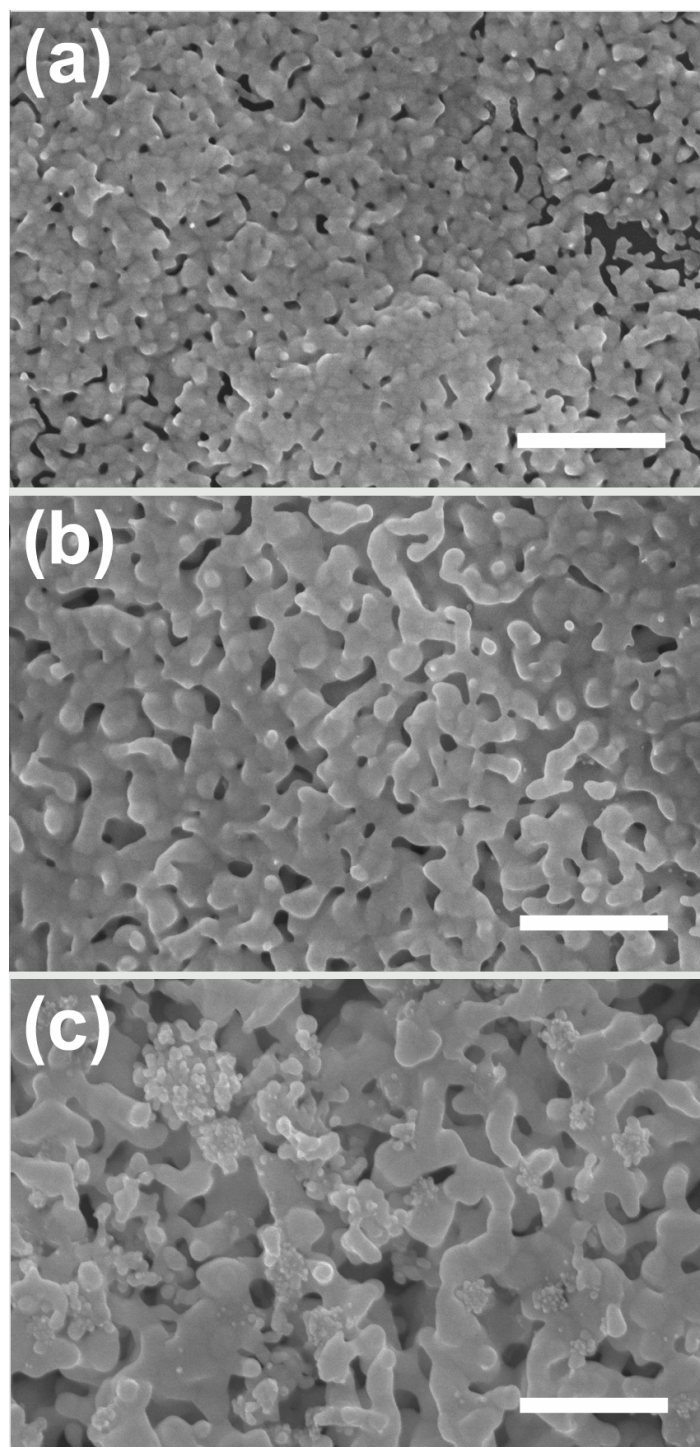


Fig. S5. SEM images of nanoporous films prepared by varying the excitation wavelength: (a) 450 ± 10 , (b) 550 ± 10 and (c) 610 ± 10 nm. The scale bars represent 500 nm for each image.