

Fabrication of gold nanoparticle using self-assembled perfluorinated supramolecule template

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Gold nanoparticle array was fabricated by supramolecule template at room temperature under air condition. Supramolecule dissolved in THF and added NaOH aqueous solution to exchange H^+ with Na^+ using acid-base reaction. After mixing supramolecule and NaOH by stirring, the solution was mixed hydrogen tetrachloroaurate(III) trihydrate ($HAuCl_4 \cdot 3H_2O$) to form Au (III) complex with supramolecule using ion transfer reaction. To reduce gold ion, the solution was irradiated by UV lamp. UV/visible spectra and transmission electron microscopy (TEM) images show the generation of gold nanoparticles.