

Partial Leaching of Shape Controlled Au@Pt Nanocrystals

민민규, 이현주^{1,*}

연세대학교; ¹연세대학교 화학공학과

(azhyun@yonsei.ac.kr*)

Platinum was selectively overgrown on (100) surfaces of the shape-controlled Au nanocrystals of cube, octahedra, and spheres. The shape of Au@Pt nanocrystals was modified by partial leaching of exposed Au core on Au@Pt nanocrystal. Cyanide ions were effectively used to leach exposed Au surface only for Au@Pt nanocrystal. The depth of leached surface was controlled by varying concentration of additional cyanide ions. Morphology of leached nanoparticle was observed by TEM and SEM. The change of optical property was observed by measuring red shifts of surface plasmon resonance (SPR) band by UV/Vis spectra. These partially leached Au@Pt nanocrystals can be potentially useful as surface-enhanced Raman scattering (SERS) substrate.