Synthesis of Shape-Controlled Pt@Co Nanoparticles

김성수, 이현주*
연세대학교 화학공학과
(azhyun@yonsei.ac.kr*)

Platinum bimetallic hetero-structures are used as catalysts for many important transformations. For example, platinum alloys have been widely studied as electrode catalysts of fuel cellsl. In this study, we synthesized shape-controlled platinum nanoparticles (cube, octapods and branch shapes). Using these platinum nanoparticles as cores, we prepared platinum-cobalt core-shell alloy nanoparticles with different cobalt ratios. We characterized Pt-Co alloy nanoparticles using TEM, EDX and cyclic voltammetry (CV) tests. The shape-controlled platinum-cobalt alloy nanocrystals show good activities for methanol oxidation electrocatalytic-reaction.