

금속-탄소나노튜브 복합재료에 대한 특성연구

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Preparation and characterization of some metal-carbon nanotube composites

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Abstract : Nanocomposites of metal (gold and silver) nanoparticles and multi-walled carbon nanotubes (MWNTs) were prepared with the assistance of various stabilizers for metals and MWNTs. Especially common surfactants such as poly(4-vinylpyridine) (PVP), sodium dodecyl sulfate (SDS), poly(sodium 4-styrene sulfonate) (PSS), and poly(diallyldimethylammonium) chloride (PDDA) were used for the sample preparation. Metal/MWNT nanocomposites were structurally characterized in by transmission electron microscopy (TEM), x-ray photoelectron spectroscopy (XPS), x-ray diffraction (XRD), UV/Vis spectroscopy. In addition, the electrical properties of the nanocomposites were studied by cyclic voltammetry (CV).

Key Words : Nanocomposite, carbon nanotube, nanoparticle, surfactant