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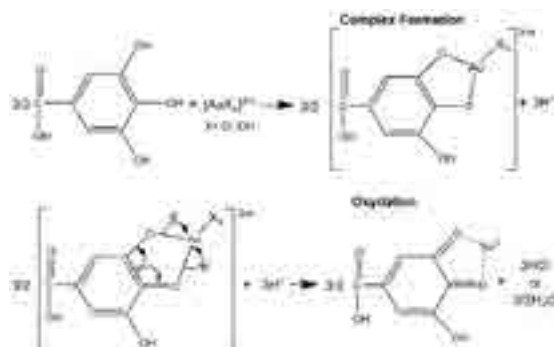
EMERGING MATERIALS AND NANOTECHNOLOGY

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One step room temperature green synthesis of Au nanoparticles via gallic acid

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A facile, eco-friendly, room-temperature method for rapid one-pot synthesis of Au metallic nanoparticles has been developed based on the successive reduction of Au(III) precursors with gallic acid (GA) in an aqueous environment. The morphology and surface analysis of the resulting Au nanoparticles were confirmed by transmission electron microscopy followed by X-ray photoelectron spectroscopy. In order to tune particle size optimum GA amount is determined with TEM and particle size distribution was measured. The average particle size of gold nanoparticles was calculated as 40 nm. This study effectively demonstrates for the Au NPs synthesis which can be effectively achieved by acting GA as reducer and stabilizer.



Biography

Mustafa Can is an Assistant Professor of Chemistry at Sakarya University. He has received his BS degree in Chemistry (1999), MS degree in Chemistry (2002), and PhD degree in Physical Chemistry from Sakarya University, Sakarya, Turkey. He has his expertise in development of polymers with functional groups that provide specific chemical reactivity on precious metals. His research interests also include core-shell nanoparticles production and usage of Li-air battery electrode for adsorption.

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