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**Metallic Nanoparticles Confined in Silica Matrices** SHIN-HYUN KANG, MIN-JAE LEE, JEEUN LEE, JUN-KI LEE, SUNG-MIN CHOI, KAIST —  
Metallic nanoparticles are widely studied due to their noble properties based on the high surface area. In order to increase the practical applications, the nanoparticles should be protected from thermal damage which can cause agglomeration. A facile way of protecting metallic nanoparticles with a silica matrix is presented. Metal nanoparticles are synthesized and functionalized in aqueous solution, and are collectively confined in a silica matrix which is thermally stable enough to protect the embedded nanoparticles. The structure and morphology are investigated by small angle x-ray scattering measurements, transmission electron microscopy and scanning electron microscopy measurements. Physical and chemical properties of the heterogeneous system would be presented, too.

Shin-Hyun Kang  
KAIST

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