Fabrications of Carbon Nanotube Coated with Os-Pd Mixed-Metal Nanoparticles

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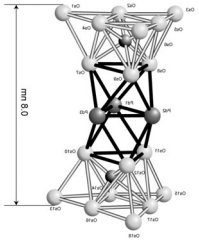
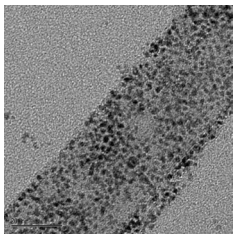
Metal nanoparticles have aroused considerable attention in the past few years. Most of the preparations are based on the reduction of metal salt with organic stabilizers or metal vapour deposition from the corresponding metal. Both of the above methods result in particles with a range of sizes. We are interested in preparing metal particles with exact size and shape. We recently established a reliable route to Os-Pd mixed-metal nanoclusters with 21 metal atoms and precise geometry [1]. We also try to prepare larger metal nanoparticles coated on carbon nanotubes using this nanocluster as starting material. The resultant nanoparticles were found to have uniform size and same metal ratio as the nanocluster.



Metal core geometry of



TEM micrograph of metal

[1] Yung K.-F., Wong W.-T, *Angew. Chem. Int. Ed.*, 2003, **5**, 553-555.

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