

Preparation of monodispersed Au nanoparticles supported in ordered mesoporous carbon

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Au nanoparticles have received much attention due to their potential applications such as optics, catalysis and biotechnology. For example, nanometer-sized Au particles in oxide supports are active for low-temperature CO oxidation. In this regards, there have been many attempts for the preparation of Au nanoparticles within inorganic matrixes like silica, titania and zeolite etc. However, there are few reports about Au nanoparticles supported in carbon materials.

In this present works, we try to prepare monodispersed Au nanoparticles within ordered mesoporous carbon (OMC) which have regular mesoporosity, high surface area and good conductivity. Using various analytic instruments such as XRD, TEM and nitrogen sorption, we confirmed the size and uniformity of Au nanoparticles in OMC. Furthermore, the electrochemical performances of the Au-OMC nanocomposite are characterized by cyclic voltammetry.