

Abstract Submitted
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Synthesis and Photochemical Properties of Au-Attached Titania Nanotubes Arrays¹ RAGEN MCADOO, MOHAMED ABD ELMOULA, LATIKA MENON, Northeastern University — Modification of titania nanostructures by various functional groups has been a subject of active research interest. It has been reported by Haruta et al. [1] that Au particles attached to oxide surfaces, such as TiO₂ have enhanced catalytic properties, such as in water splitting, CO oxidation, etc. It is expected that attachment of the Au particles to titania nanotubes will have additional advantages with respect to catalysis due to the enhanced surface area. Au nanoparticles have been attached to the surface of titania nanotube arrays by means of a deposition-precipitation method. We demonstrate a high deposition density of the gold particles over the nanotube surface and also good control over the size and coverage density of the gold nanoparticles. Photocurrent measurements using such Au attached titania nanotubes as photoanodes have been measured and compared with blank titania nanotubes. References: 1. M. Haruta, M. Date, Applied Catalysis A General 222, (2001)

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