

Supporting Information for

Modulation Technique of Localized Surface Plasmon Resonance of
Palladium Nanospheres by Coating with Titanium Dioxide Shell for
Application to Photothermal Therapy Agent

Yutaro Hayakawa,¹ Masato Furuya,¹ Hironobu Tahara,² Yasuhiro Kosuge,³ Tsuyoshi Kimura,⁴ Kosuke Sugawa,^{1*} Joe Otsuki¹

¹Department of Materials and Applied Chemistry, College of Science and Technology, Nihon University, Chiyoda, Tokyo 101-8308, Japan

²Graduate School of Engineering, Nagasaki University, Bunkyo, Nagasaki, 852-8521, Japan

³Laboratory of Pharmacology, School of Pharmacy, Nihon University, 7-7-1 Narashinodai, Chiba, Funabashi 274-8555, Japan

⁴Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, Chiyoda, Tokyo, 101-0062, Japan

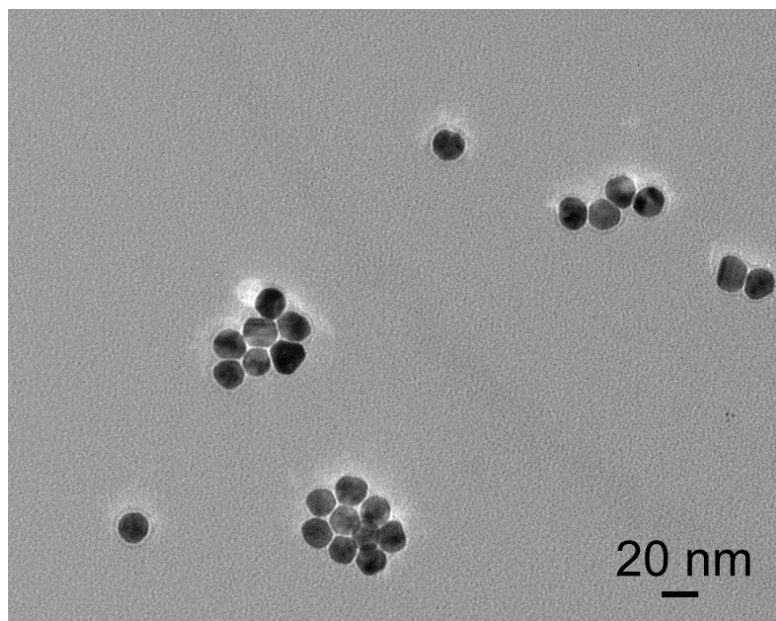


Figure S1. TEM image of spherical Au nanoparticles.

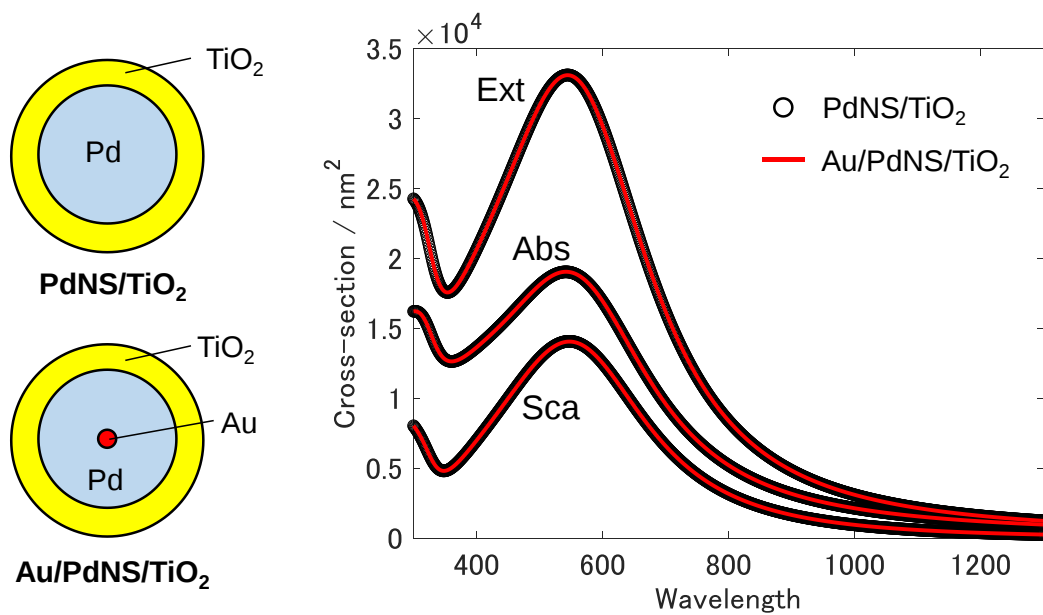


Figure S2. Extinction, scattering, and absorption spectra of PdNS/TiO₂ and Au/PdNS/TiO₂ nanoparticles calculated by Mie theory. Diameters of Au core and PdNS are 12 and 81 nm. Thickness of the TiO₂ shell is 28 nm. Refractive index of the surroundings is 1.333. Multilayer effect was considered in Au/PdNS/TiO₂ system by Mie theory and all dielectric functions of Au, Pd, and TiO₂ were assumed to be invariant by the formation of core-shell structure.