Supporting Information

Synthesis of Small Gold Nanoparticles: Au(I) Disproportionation Catalyzed by a Persulfurated Coronene Dendrimer

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Experimental section.

AuCl, $HAuCl_4$ (high purity reagents 99.9%) and 11-mercapto-1-undecanol (97%) were obtained from Aldrich and used in acetonitrile solution.

Synthesis. The purity and the characterization of compound **1** were ascertained by ^{1}H and ^{13}C NMR; MALDI-tof spectra confirmed 12 substitutions.

Photophysical experiments. All the experiments were carried out in dichloromethane solution at 298 K unless otherwise noted. UV-Vis absorption spectra were recorded with a Perkin Elmer λ40 spectrophotometer, using quartz cells with pathlength of 1.0 cm. The estimated experimental errors are: ±2 nm on the band maximum, 5% on the molar absorption coefficient.

HR-TEM experiments. The Transmission Electron Microscopy (TEM) observations have been performed with a FEI TECNAI F20 TEM equipped with a Schottky emitter and operating at 200 keV. The sample was prepared by evaporating at room temperature and atmospheric pressure a drop of diluted solution ([**1**] = 7.5×10^{-6} M, $[Au^{+}] = 2.3\times10^{-4}$ M) on a copper grid with a carbon foil. Size distribution was evaluated by Scion Image program: particles with d < 0.7 nm are not reported because they are below instrument resolution.

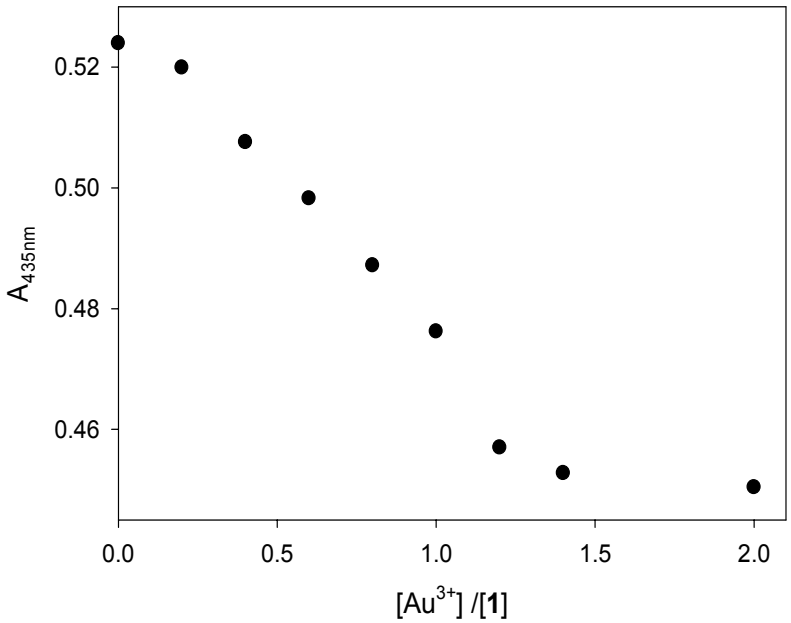

Figure 1. Absorbance changes at 435 nm upon titration of compound **1** in dichloromethane (7.5×10^{-6} M) with $HAuCl_4$