Supporting Information to

Silver sputtering into liquid matrix containing mercaptans: the systematic size control of silver nanoparticles in single nanometer–orders

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Experimental Details

UV-Vis extinction spectra were measured using a spectral photometer (Perkin Elmer, Lambda 750, 250 - 800 nm) with a quartz cell of 1 mm optical path, immediately after the sputtering deposition.

TEM observation for the size and shape of Ag NPs was carried out using H-9500 (Hitachi, acceleration voltage of 300 kV). TEM samples were prepared by dropping dispersion of PEG onto collodion-coated copper grids. The grids were then soaked into methanol for 30 min in order to remove the excess PEG and dried under vacuum.

STEM observation was carried out using Titan II (FEI, acceleration voltage of 300 kV) equipped with EDX. Before the STEM measurement, the suspension of Ag NP was purified by repeated re–precipitation with chloroform to remove the PEG and excess MUA, and the Ag NPs was obtained as a powder. The sample for STEM measurement was prepared by dropping the purified Ag NPs dispersion in methanol and dried for overnight.



Figure S1. TEM images and size-distribution histograms of Ag NPs prepared at 5.2×10^{-4} , 2.6×10^{-3} and 5.2×10^{-2} M concentration of MUA in PEG.