Electronic Supplementary Information (ESI)

Effective Removal of Surface-Bound Cetyltrimethylammonium Ions from Thiol-Monolayer-Protected Au Nanorods by Treatment with Dimethyl Sulfoxide/Citric Acid

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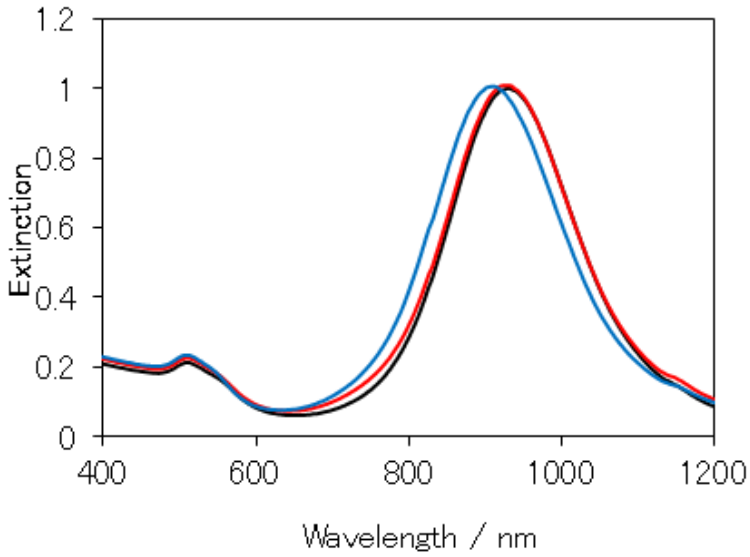

Figure S1 UV-vis absorbance spectra of PEG-AuNRs before (red line) and after (black line) the ligand exchange from CTAB-AuNRs. UV-vis absorbance spectrum (blue line)of PEG-AuNRs after the dialysis for two days showing small blue shit of the peak.

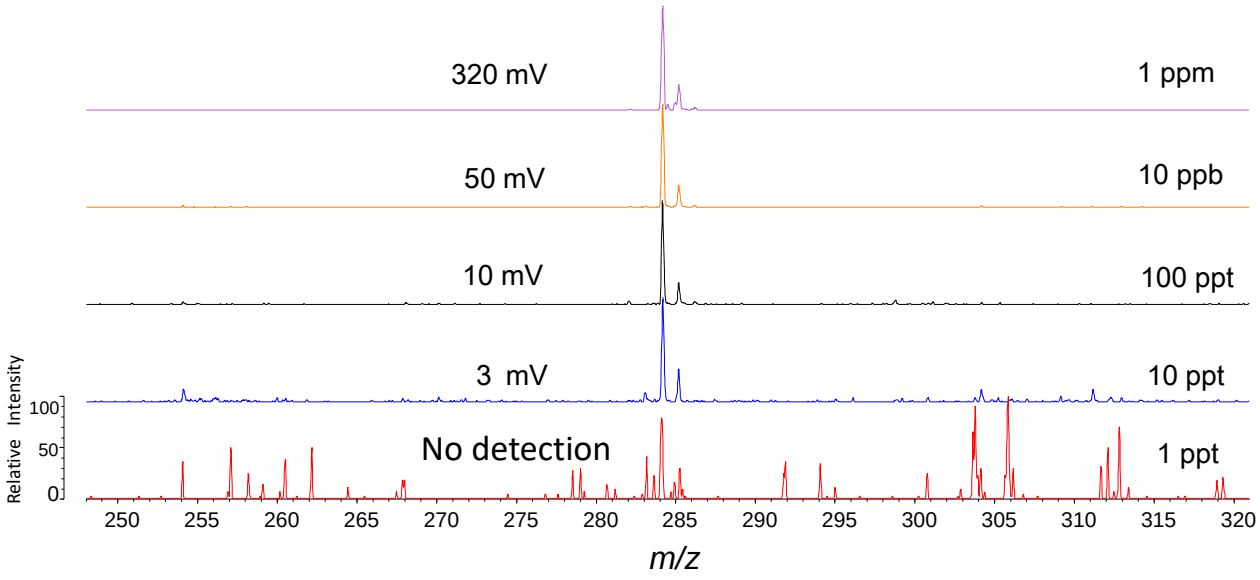

Figure S2 SALDI mass spectrum of PEG-AuNRs by spiking of CTAB aqueous solutions into the treating Au NRs with DMSO/Cit (100mM) at a laser power (LP) of 30. In the case of 1 ppt spiked solution, we could not detected the CTA cations.

For SALDI-MS analyses, a 1mL aliquot of the treating PEG-AuNR solution was centrifuged at 14,800 rpm for 30 min, decanted, and 1 µL of precipitate solution was spotted on the MALDI plate and dried under reduced pressure. After that, 0.5 µL of CTAB aqueous solution with different concentrations (0.1 ppt, 1ppt, 100 ppt, 10 ppb, and 1 ppm) was spotted on the PEG-AuNRs, and dried naturally. SALDI mass spectra were recorded in linear mode using an AXIMA CFR TOF mass spectrometer for the sample. One hundred laser shots were used to acquire mass spectra.