

Supporting Information

Trace analysis of mercury (II) ions using aptamer-modified Au/Ag core-shell nanoparticles and SERS spectroscopy in microdroplet channel

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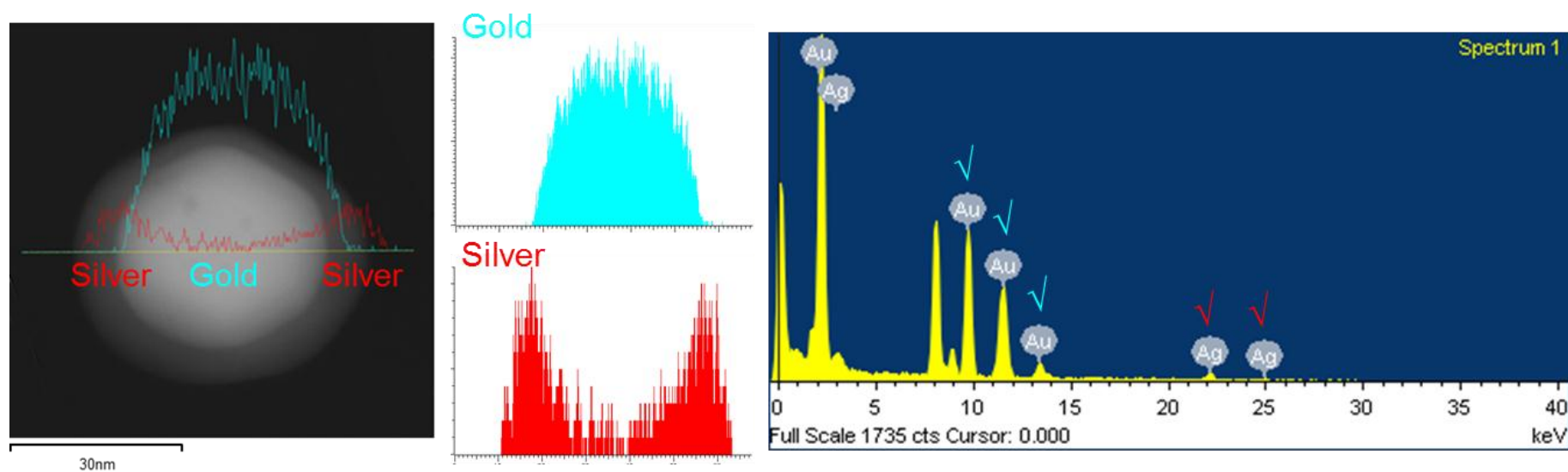


Figure S1. FE-TEM image and EDS profile for a ds DNA-embedded Au/Ag core-shell nanoparticle (4 nm silver shell thickness).

Figure S1

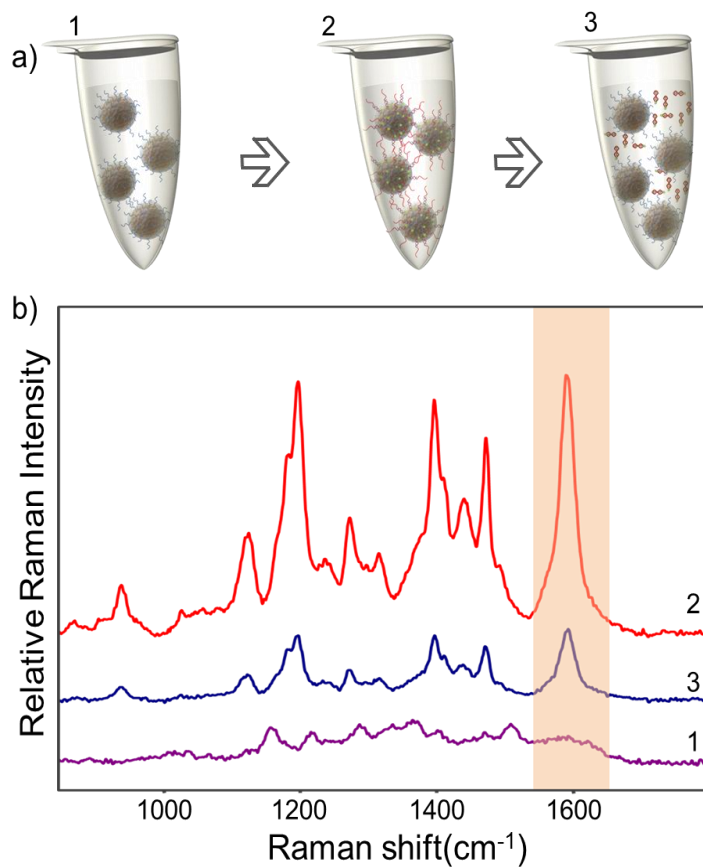


Figure S2. (a) Schematic illustration of Hg^{2+} sensing process and (b) SERS spectrum of DNA conjugated $\text{Au}_{\text{core}}/\text{Ag}_{\text{shell}}$ (1), an aptameric biosensor in the absence of Hg^{2+} (2), an aptameric biosensor in the presence Hg^{2+} of 100 μM (3). In the presence of mercury (II) ions, Cy3-labeled DNA aptamers are released from the metal surface causing a decrease in the observed SERS signal intensity. Major peak of Cy3 was expressed at 1590 cm^{-1} .

Figure S2

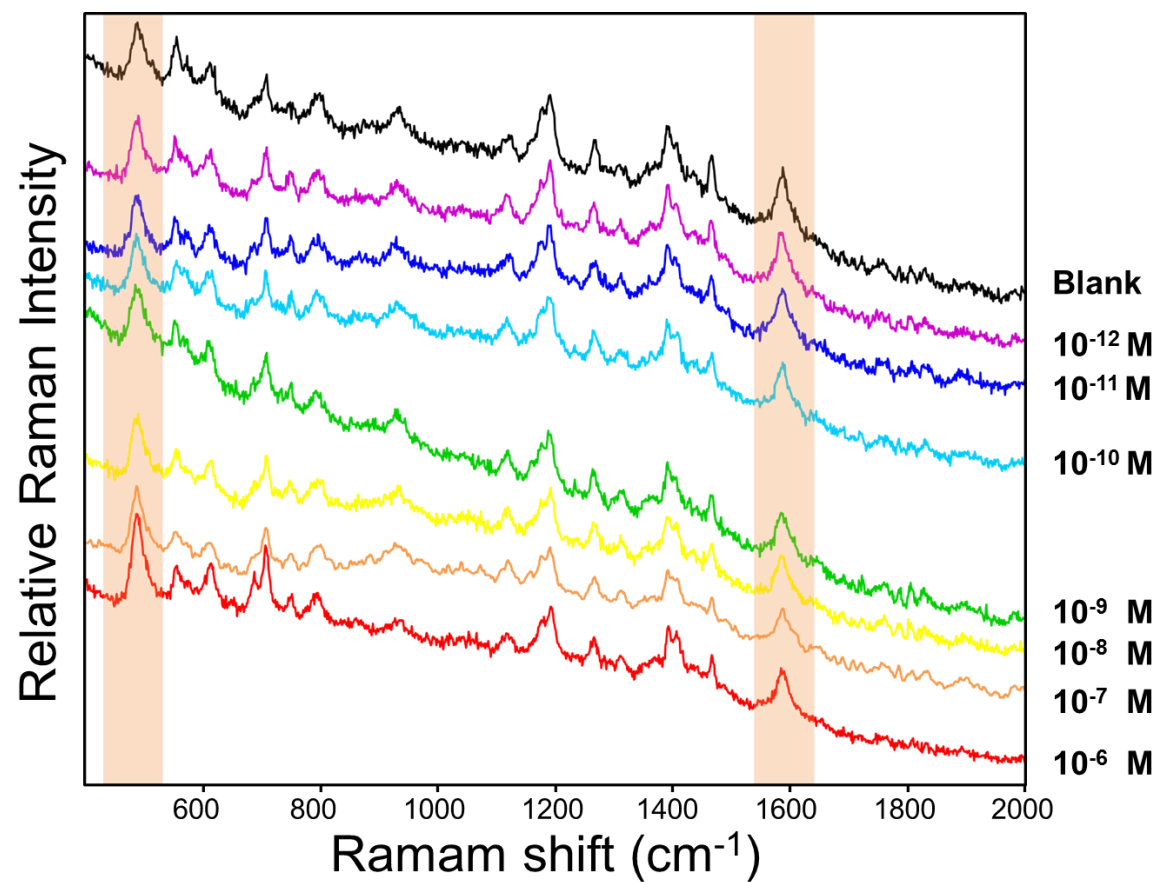


Figure S3. Concentration-dependent raw SERS spectra of Cy3 in PDMS microdroplet channel. Concentration ranged from 10^{-12} to 10^{-6} M .

Figure S3