Supporting Information

A universal strategy for the incorporation of internal standards into SERS substrate to improve the reproducibility of Raman signal

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Scheme S1

Scheme S1. Impact of the Charge and Sulfhydryl on the Surface Competitive Adsorption of Au NBPs. (A) and (C) are the schematic diagram of opposite charge between internal standard and the analyte, (B) is the same charge between internal standard and the analyte; (A) and (B) are the schematic diagram of internal standard with sulfhydryl group, (C) is the schematic diagram of internal standard without sulfhydryl group.

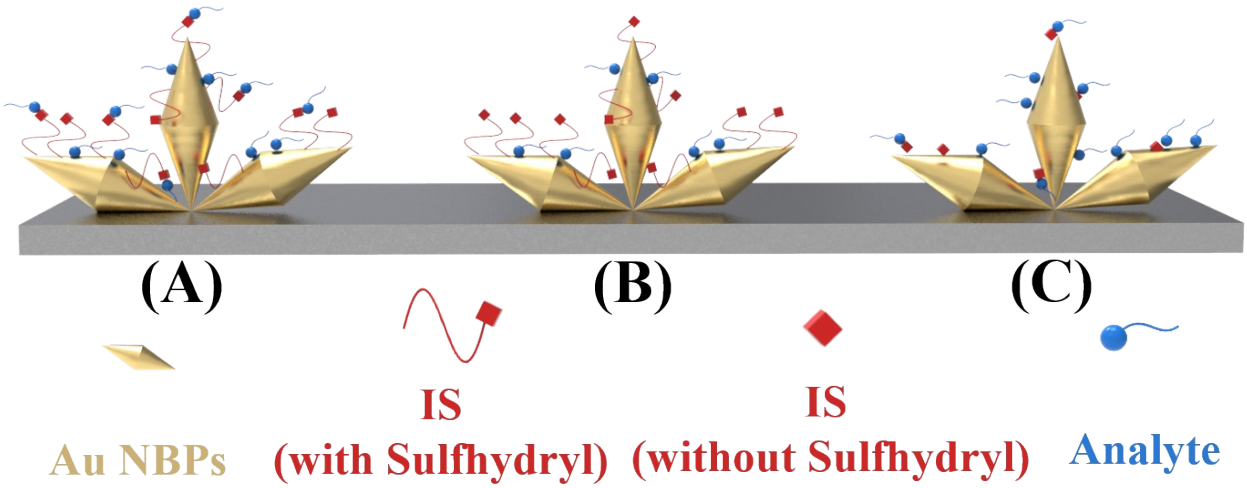

Figure S1

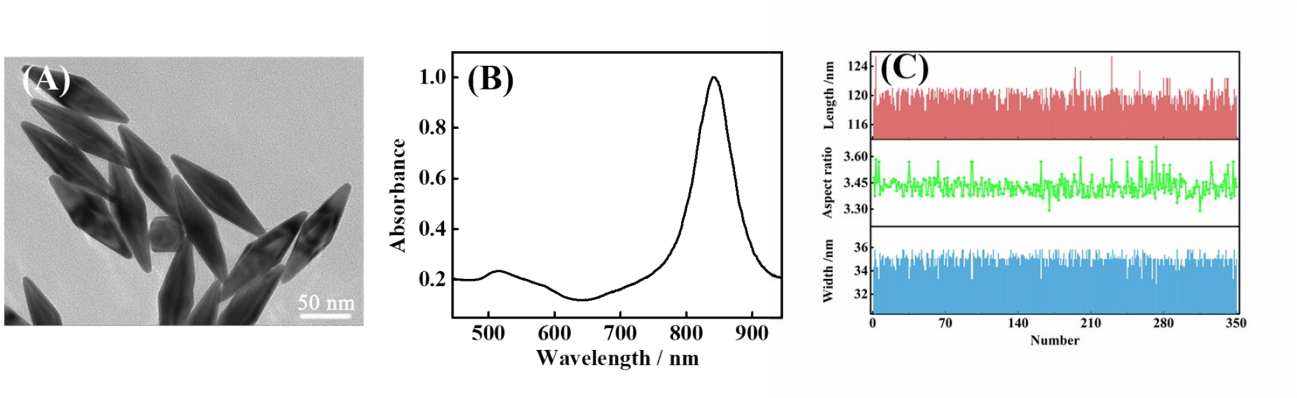

Figure S1. (A) The TEM image of Au NBPs. (B) UV-vis spectra of Au NBPs, the longitudinal and transverse LSPR peaks of the Au NBPs were located at ~840 nm and ~520 nm, respectively. (C) The histogram of the length and width of 350 Au NBPs and the line chart of corresponding aspect ratio.

Figure S2

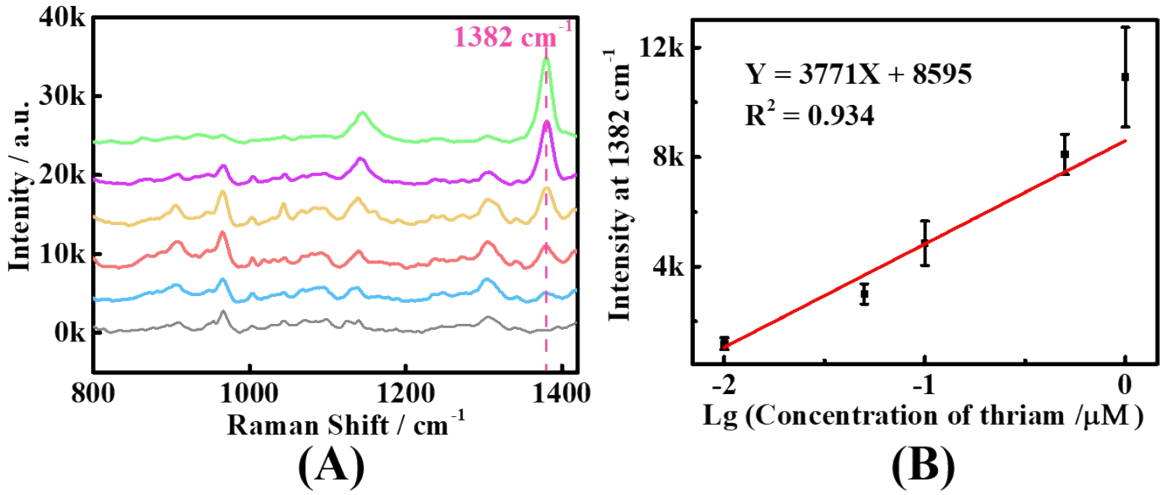

Figure S2. (A) Raman spectra obtained for the detection of thiram at different concentrations by using Au NBPs/AAO SERS substrate. (B) Corresponding linear fitting of the SERS intensity at 1382 cm^{-1} under various thiram concentrations.