

Electronic Supplementary Information

Loaded Depositing of Silver Nanoparticles on Flexible Film and Its Application in Sensitive Detection

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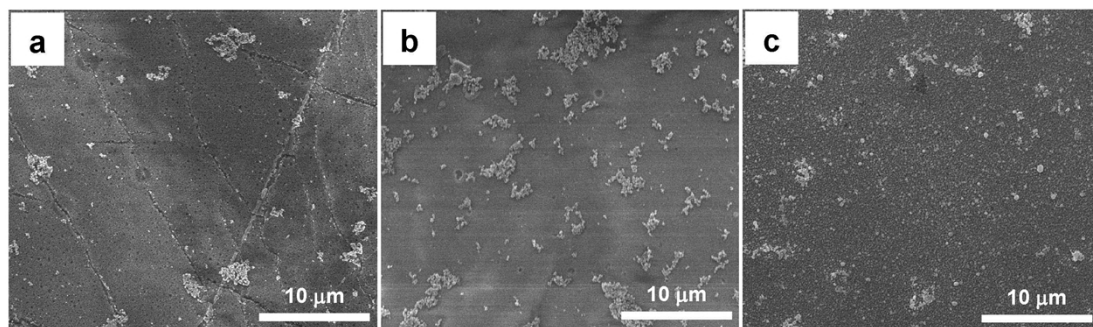


Figure S1. SEM images of Ag nanoparticles deposited on the PDMS film with modification with APTES prepared with different concentration of AgNO_3 and incubated for 24 h at room temperature. a) 1mM ,b) 5mM ,c) 8mM

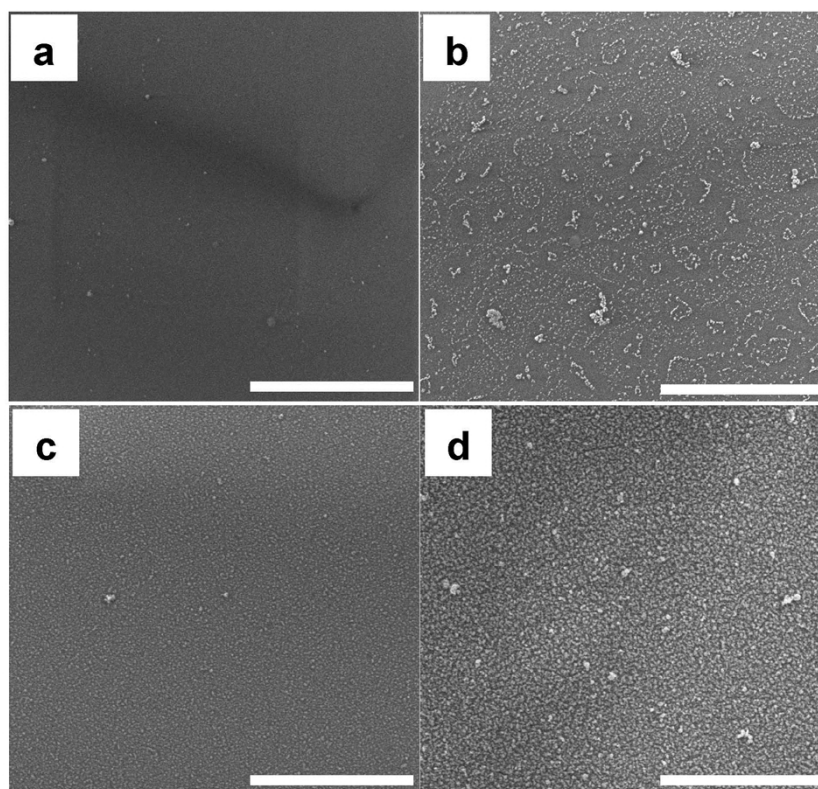


Figure S2. SEM images of Ag nanoparticles deposited on the PDMS film with modification with APTES prepared with same concentration of AgNO_3 (20mM) and incubated for different time at room temperature. (a) 5min, (b) 30min, (c) 1h and (d) 12h.(scale bar is 5μm)

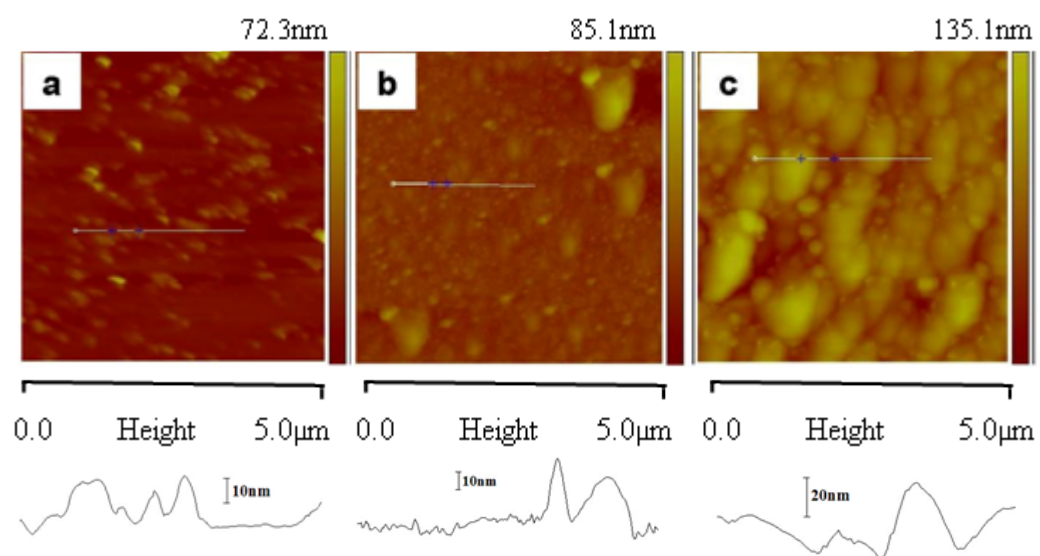


Figure S3. The typical AFM images of different concentration of Ag nanoparticles deposited on PDMS film a) 1mM, b) 5mM, c) 8mM.

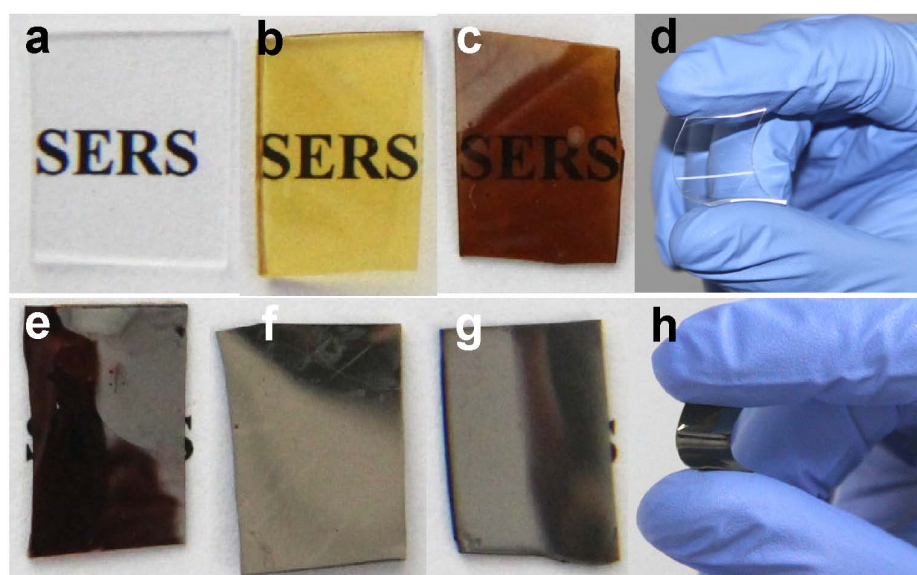


Figure S4. Photographs of the time-dependent formation process of the AgNPs-PDMS composite film.

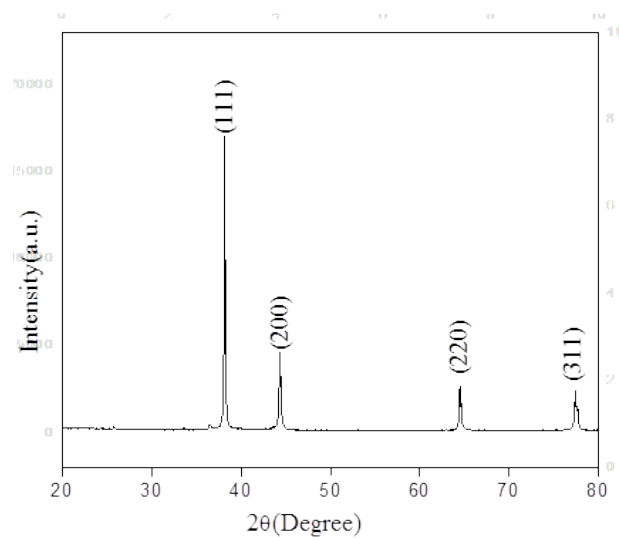


Figure S5. XRD pattern of the Ag nanoparticles.

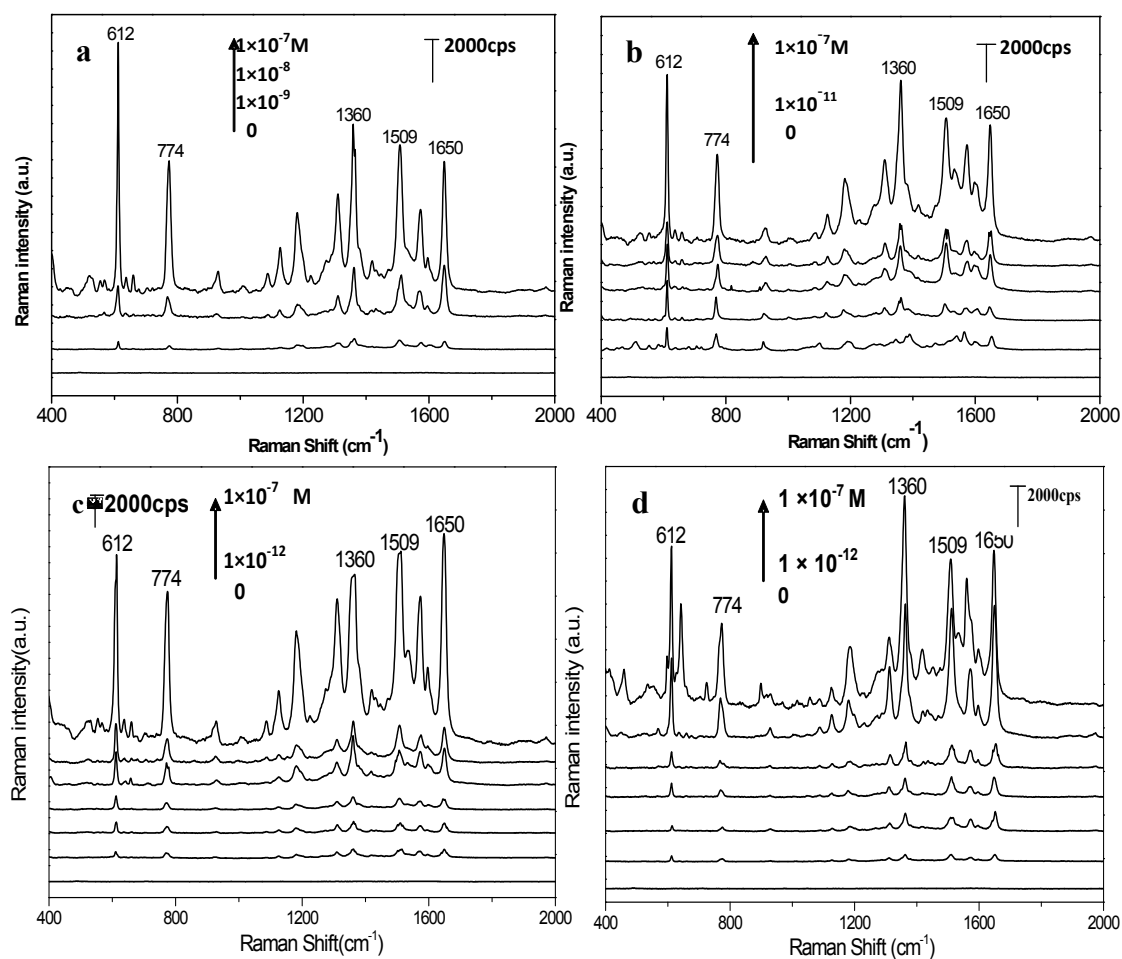


Figure S6. a) SERS spectra of different concentrations of the rhodamine 6G (R6G) dispersed on the PDMS-Ag (0.5mM AgNO₃) film substrate; b) SERS spectra of different concentrations of the rhodamine 6G (R6G) dispersed on the PDMS-Ag (1mM AgNO₃) film substrate; c) SERS spectra of different concentrations of the rhodamine 6G (R6G) dispersed on the PDMS-Ag (5mM AgNO₃) film substrate; d) SERS spectra of different concentrations of the rhodamine 6G (R6G) dispersed on the PDMS-Ag (8mM AgNO₃) film substrate.

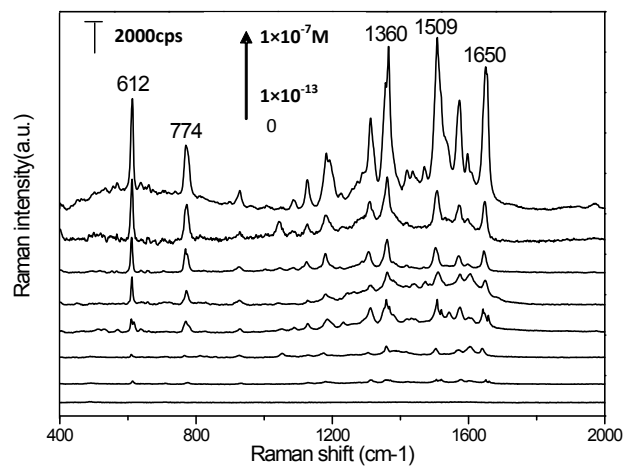


Figure S7. SERS spectra of different concentrations of the rhodamine 6G (R6G) dispersed on the PDMS-Ag (20mM AgNO₃) film substrate.

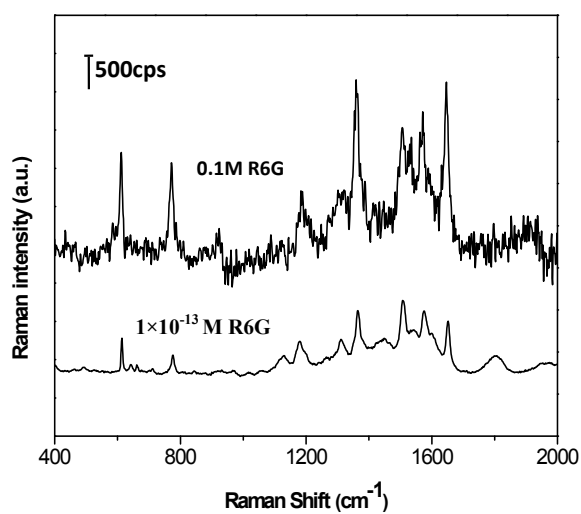


Figure S8. Raman spectra of 0.1M and 1×10^{-13} M rhodamine-6G (R6G) on a silicon substrate (upper) and on the PDMS-Ag film (bottom), respectively.

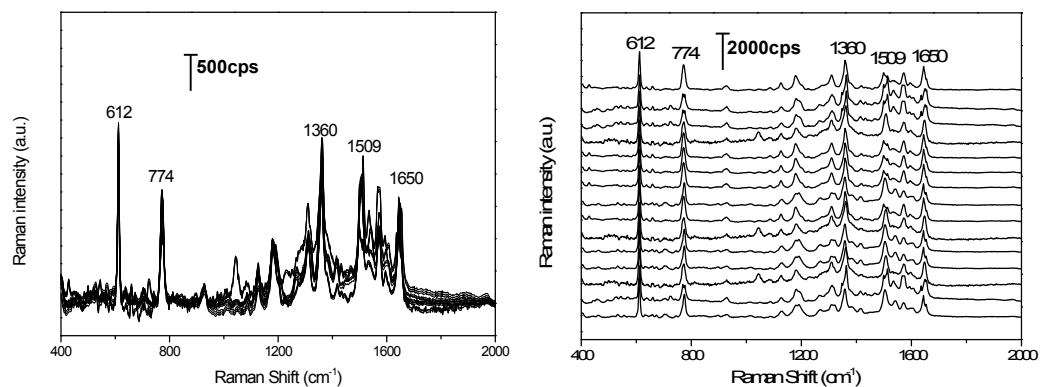


Figure S9. The SERS spectra of R6G at the concentration of 1×10^{-8} M from 15 random spots by using the AgNPs-PDMS (20mM AgNO_3) as the enhanced substrate.

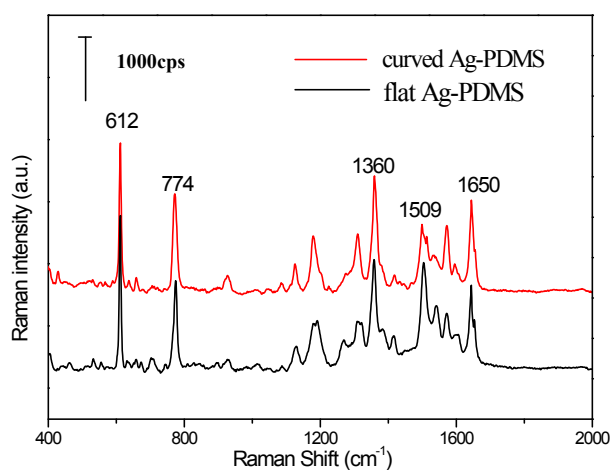


Figure S10. Raman spectra of 1×10^{-8} M rhodamine-6G (R6G) on a curved Ag-PDMS (red line) and on the flat Ag-PDMS (black line), respectively.

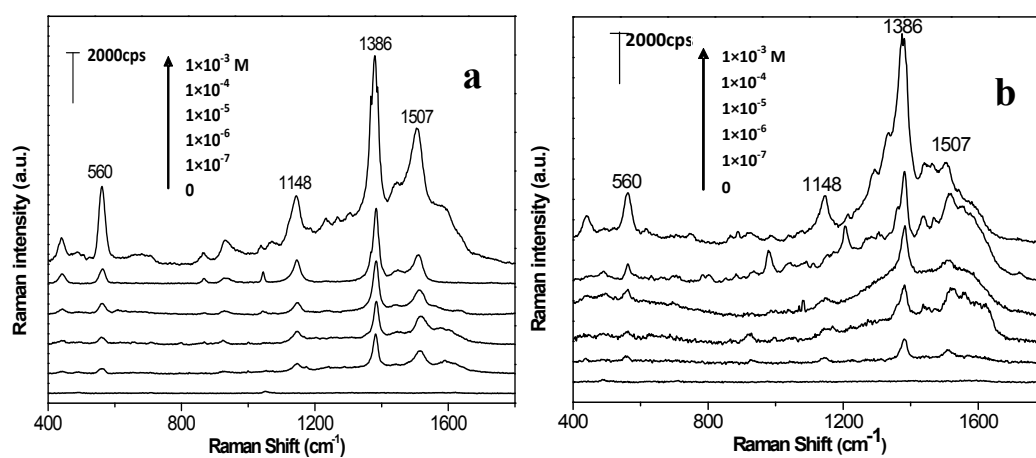


Figure S11. SERS spectra of thiram in ultrapure water a), real lake water b) at different spiked concentrations, respectively.