

Supplementary Material

Determination of perchlorate in tea using SERS with superhydrophobically treated cysteine modified silver film/ polydimethylsiloxane substrate

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Table S1. The conditions of Microwave digestion.

Digestion mode	temperature (°C)	Heating time (min)	Holding time (min)	Cooling time (min)
Microwave digestion	190	20	10	15

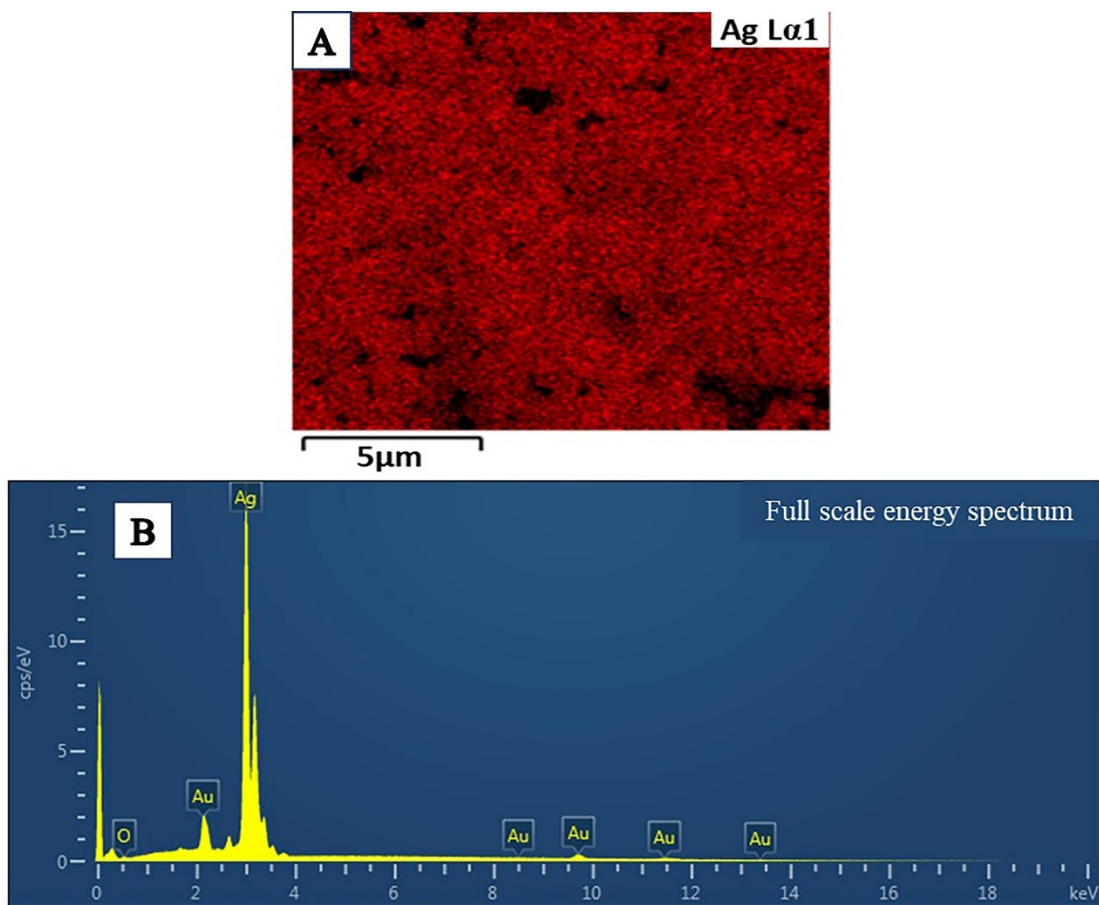


Figure S1. (A) Element distribution on the surface of Cys-Ag/PDMS substrate, (B) The EDS spectrum of Cys-Ag/PDMS SERS substrate

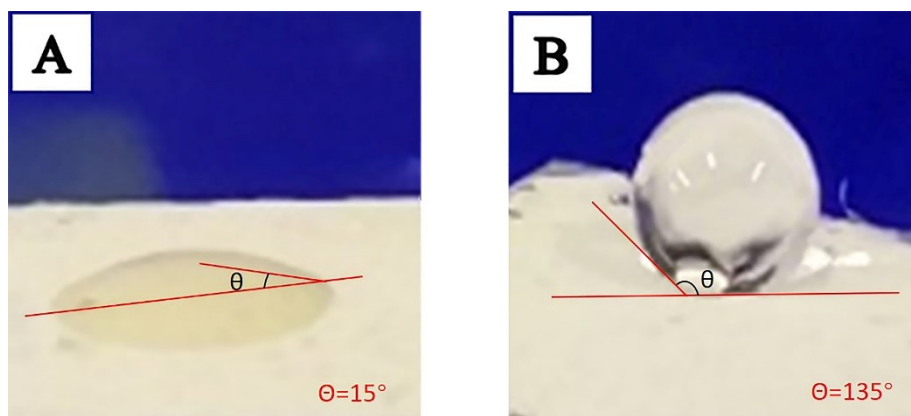


Figure S2. The state of droplets on the non-hydrophobic surface (A) and the state of droplets on the hydrophobic surface (B)

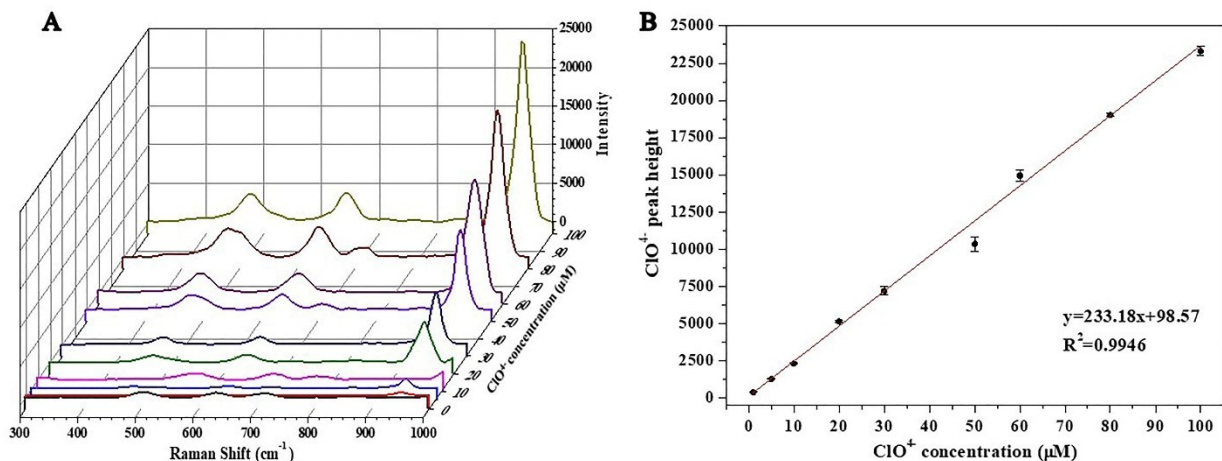


Figure S3. Raman spectra of different concentrations of sodium perchlorate aqueous solution on the composite surface substrate after hydrophobic (A) and the linear relationship between Raman peak intensity and sodium perchlorate concentration (B)

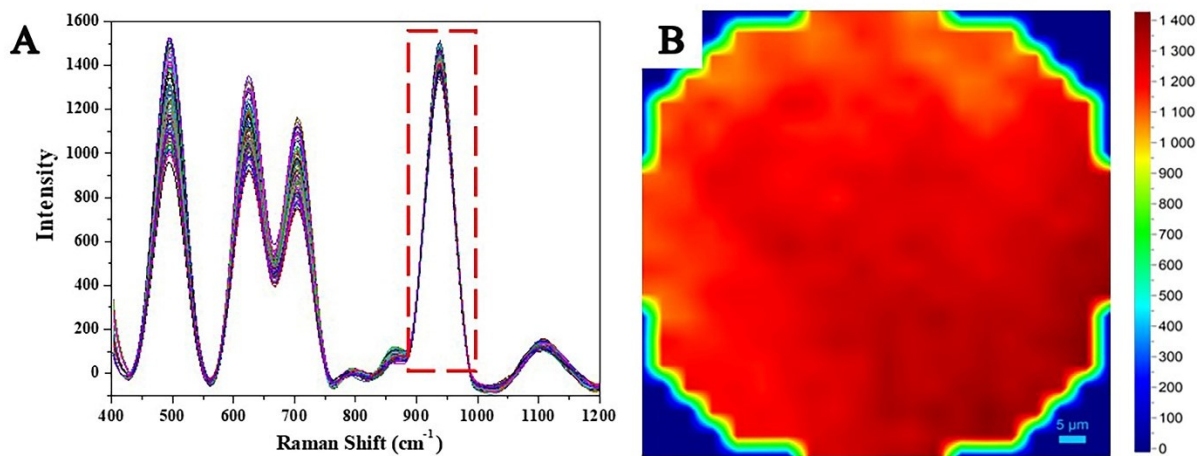


Figure S4. (A) Raman spectrum of 10 μmol/L sodium perchlorate at 100 points in a circular area after the Cys-Ag/PDMS substrate was stored for 30 days, (B) Pseudo-color map of intensity distribution at 935 cm⁻¹ of 10 μmol/L sodium perchlorate at 100 points in a circular area after the Cys-Ag/PDMS substrate was stored for 30 days

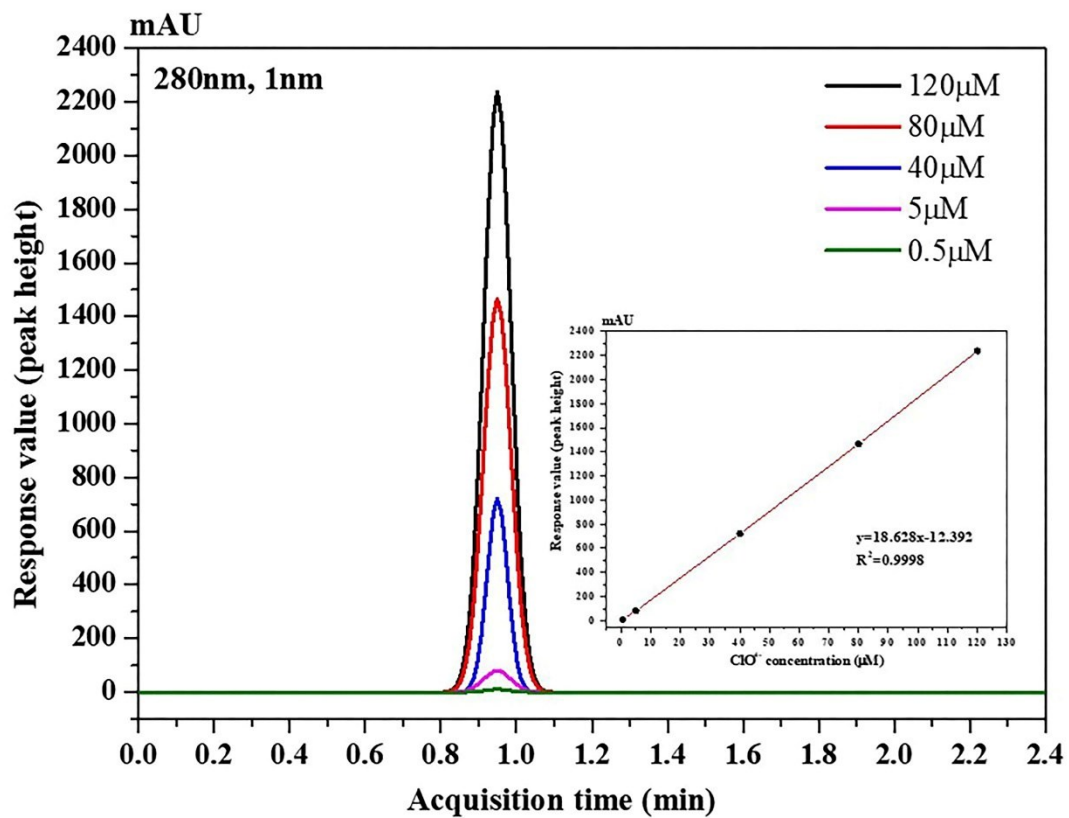


Figure S5. Liquid chromatograms and calibration curves of sodium perchlorate standards with different concentration gradients.