Supporting Information



Figure S1. The digital camera images of PNIPAAm film (a), PNIPAAm / AgNPs composite film



under 25 °C (b) and PNIPAAm / AgNPs composite film under 40 °C (c).

Figure S2. (A) SERS spectra of 1×10^{-4} M 4-Mpy using PNIPAAm / AgNPs composite film as

SERS substrate with different deposition time and (B) the corresponding deposition time-

dependent SERS intensity at 1097 cm⁻¹.



Figure S3. Schematic illustration of the pattern of AgNPs on PNIPAAm film.



Figure S4. (A) SERS spectra of 1×10^{-9} M CV using PNIPAAm / AgNPs composite film as SERS substrate with increasing temperatures and (B) the corresponding temperature-dependent SERS intensity at 971 cm⁻¹.



Figure S5. (A) SERS spectra of 1×10^{-4} M anthracene using PNIPAAm / AgNPs composite film as SERS substrate with increasing temperatures and (B) the corresponding temperature-dependent SERS intensity at 1090 cm⁻¹.



Figure S6. SERS spectra of 1×10^{-4} M 4-mercaptopyridine adsorbed on the PNIPAAm / AgNPs composite film recorded at pH=7 (a), pH=4 (b) and pH=10 (c).



Figure S7. SERS spectra of 1×10^{-4} M 4-mercaptopyridine adsorbed on the PNIPAAm / AgNPs

composite film recorded in water (a), 3.5 % NaCl (b) and 15 % NaCl (c)



Figure S8. The SRES spectra of 4-Mpy (1×10 -4 M) using PNIPAAm / AgNPs composite film as SERS substrate with different storage time.