

SUPPORTING INFORMATION

***In situ* and Real Time Investigation of Foliarly Applied Silver Nanoparticles in Spinach Leaves by Surface Enhanced Raman Spectroscopic Mapping Technique**

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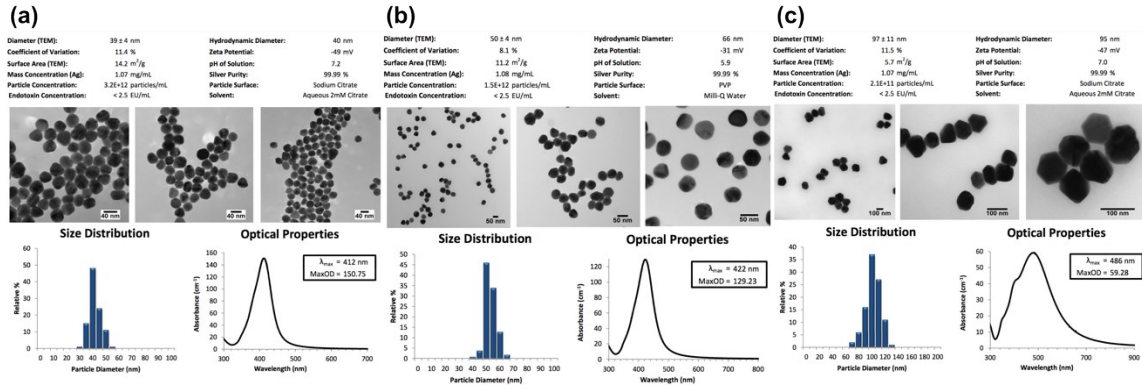


Figure S1. The basic information of used AgNPs from nanocomposix.

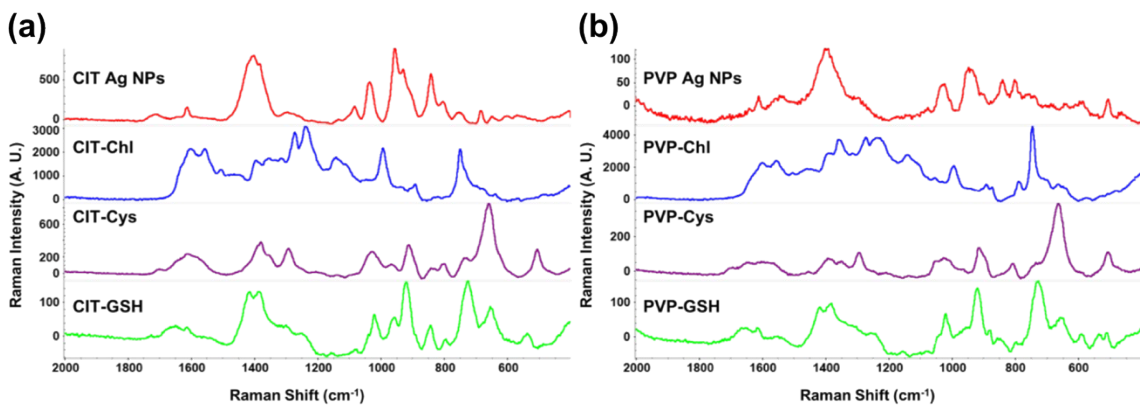


Figure S2. In vitro SERS spectra of chlorophyll, cysteine, and glutathione.

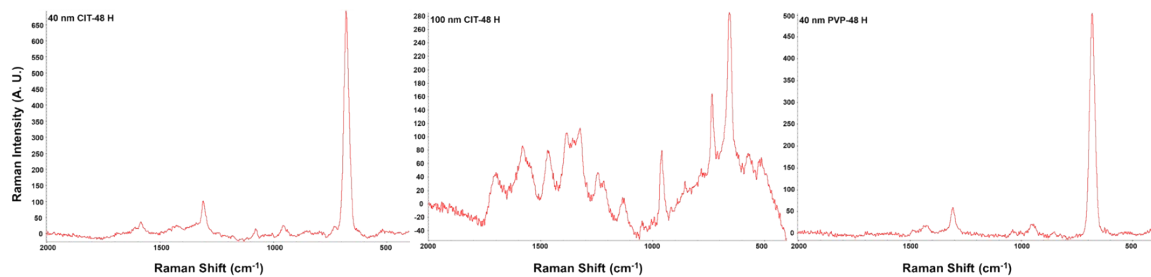


Figure S3. *In situ* SERS spectra (Depth: 0 μm) of 40 nm CIT-AgNPs (a), 100 nm CIT-AgNPs (b), 40 nm PVP-AgNPs (c) in spinach after 48 h.

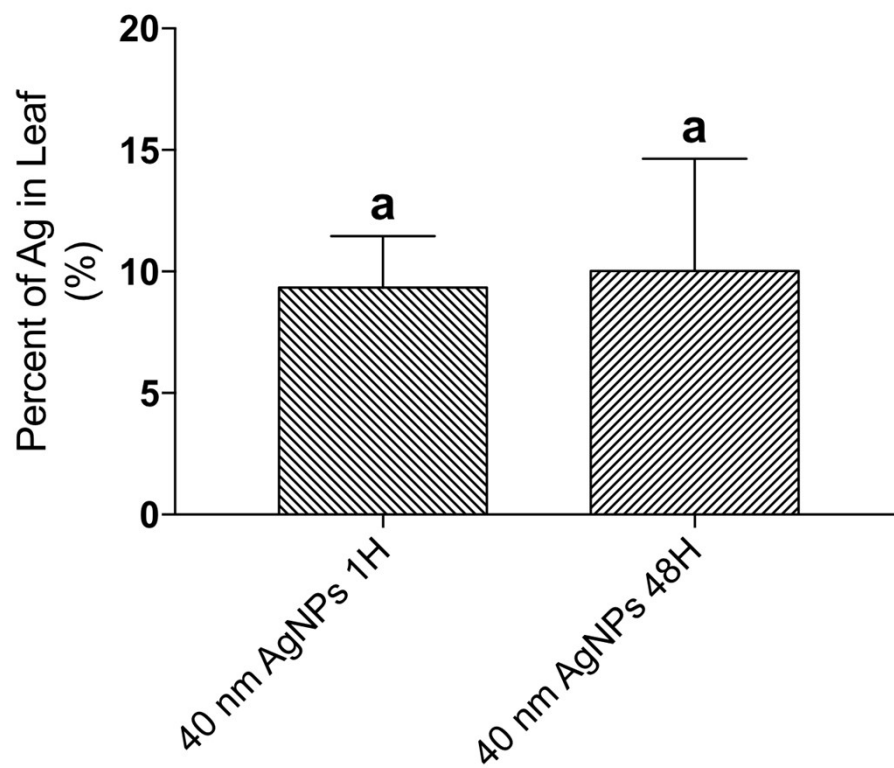


Figure S4. The amounts of penetrated Ag in spinach leaves by ICP-MS. Same letter represents a non-statistically significant difference ($P>0.05$).

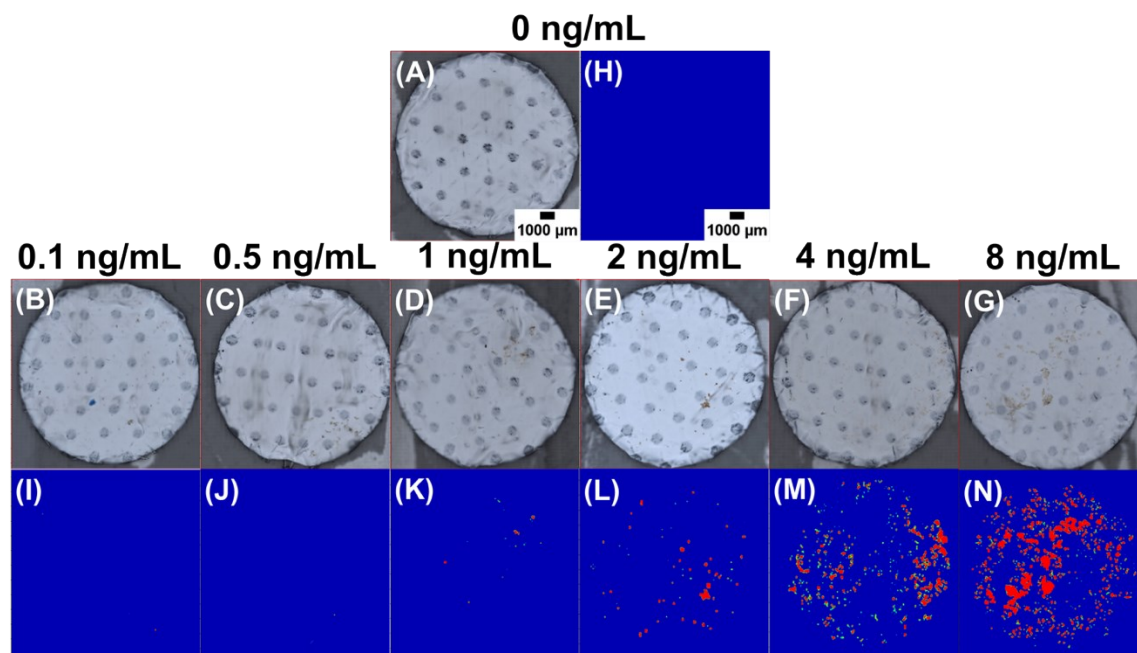


Fig. S5 Different amount of 60 nm CIT-AgNPs on the filter membrane. Optical images: (A)-(C), (G)-(I); Raman scattering images: (D)-(F), (J)-(L). Laser wavelength=780 nm, Laser intensity=5 mW, aperture= 50 slit, step size= 100 μm , scan rate=0.05 s/step.¹⁴