

Supporting Information

A Simple Enzyme-Free SERS Sensor for Rapid and Sensitive Detection of Hydrogen Peroxide in Food

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1. Response time of the sensing system

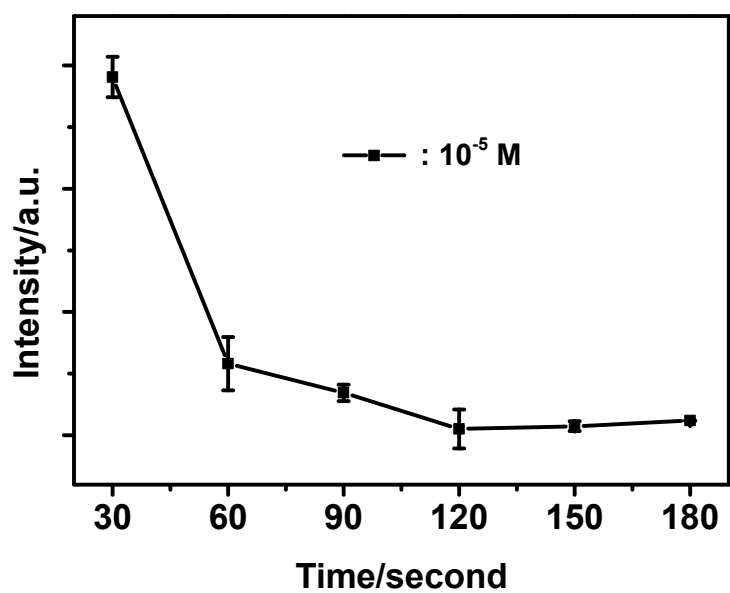


Fig. S1. The relationship between the SERS intensity of 4-mpy at 1096 cm^{-1} and sensing time.

2. Solution pH

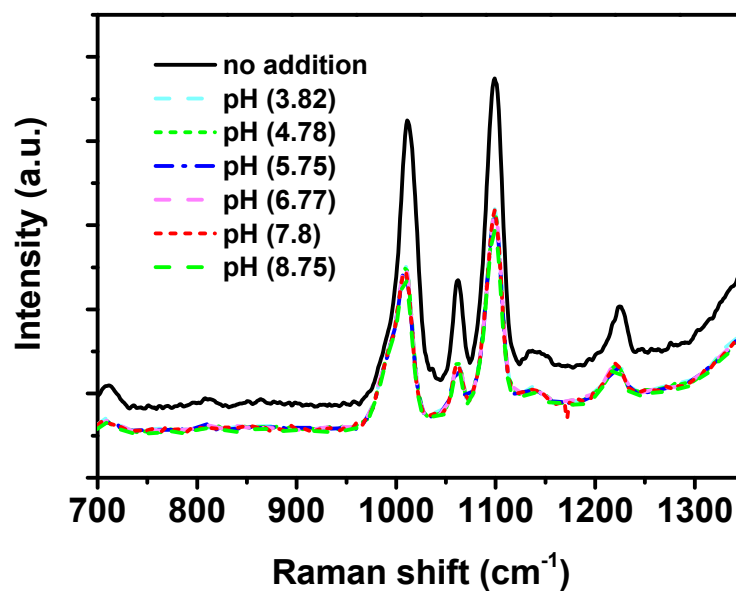


Fig. S2. Response of the SERS sensor to varying pH.

3. Reproducibility of the SERS sensor

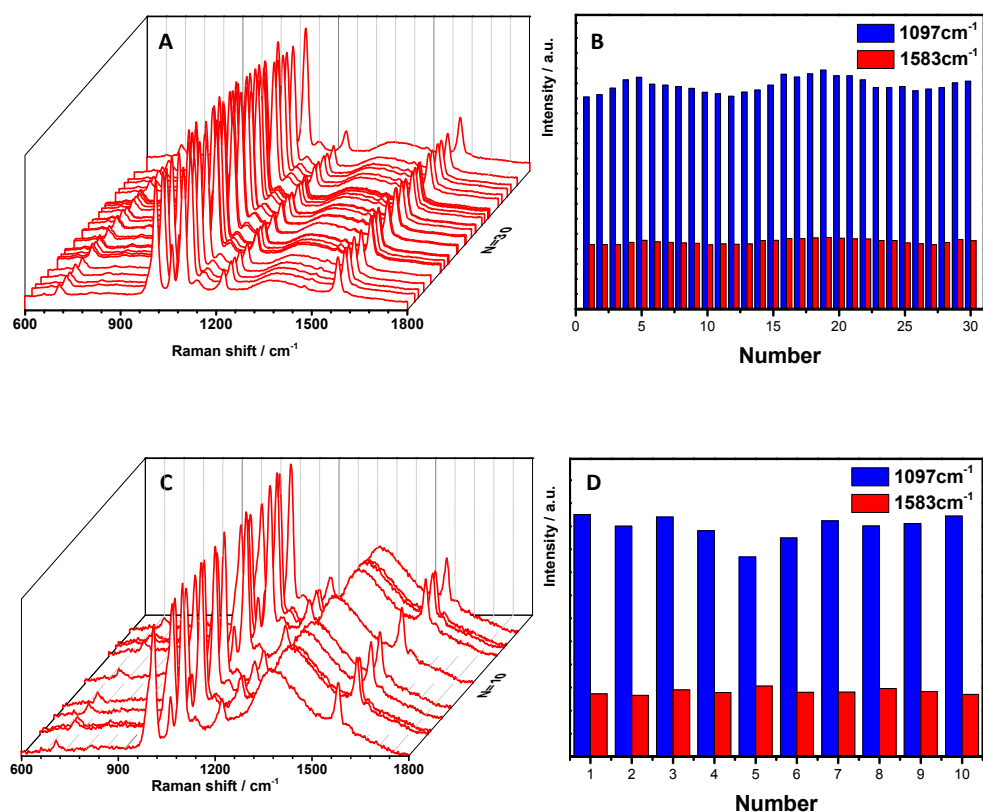


Fig. S3. (A) SERS spectra and (B) the intensities at 1097 and 1583cm^{-1} from the same sample from 30 randomly selected points from the same sample. (C) SERS spectra and (D) histogram of $\Delta I/I_0$ values obtained from 10 different SERS substrates.

4. Application to milk samples

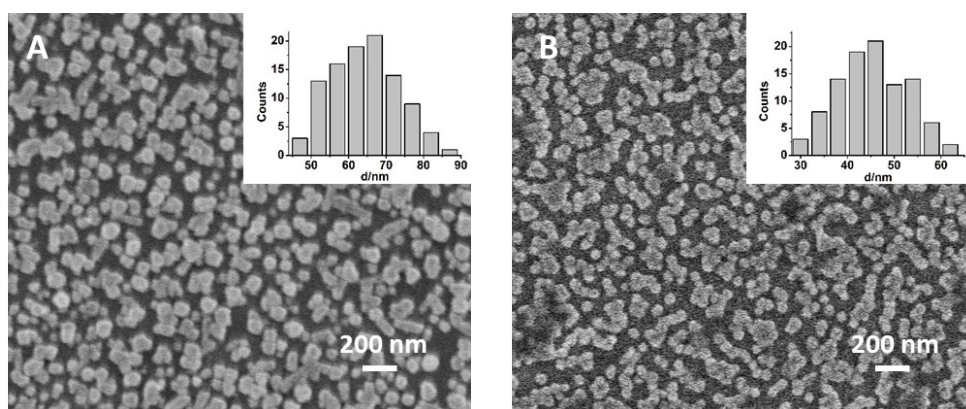


Fig. S4. SEM images of the Ag NP-assembled substrate before (A) and after (B) immersion in $10\text{mM H}_2\text{O}_2$ in milk.