Supporting information for

**Colorimetric detection of residual hydrogen peroxide in soaked food based on Au@Ag nanorods**

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**Figure S1.** TEM images (A, B) and extinction spectrum (C) of Au NRs, TEM images of Au@Ag NRs (D)
Figure S2. Effects of NH$_3$ concentration (4.0, 4.7, 5.6, 7.0, 9.3%) on the red shift of Au@Ag NRs at the presence of 60 μmol L$^{-1}$ H$_2$O$_2$. 
Figure S3. Effects of temperature on the red-shift of Au@Ag NRs at the presence of 60 μmol L⁻¹ H₂O₂.
Figure S4. Effects of CTAB concentration (0.1, 0.02, 0.01, 0.0067, 0.005, 0.004 mol L\(^{-1}\)) on the red shift of Au@Ag NRs at the presence of 60 μmol L\(^{-1}\) H\(_2\)O\(_2\).
Figure S5. Red-shift of longitudinal SPR of Au@Ag NRs in the presence of possible interferents and H₂O₂, respectively. (The error bars represent the standard deviation of three measurements)

(Ca²⁺: 5 mmol L⁻¹, Mg²⁺: 5 mmol L⁻¹, Na⁺: 5 mmol L⁻¹, K⁺: 5 mmol L⁻¹, NO₃⁻: 1 mmol L⁻¹, CO₃²⁻: 1 mmol L⁻¹, HCO₃⁻: 1 mmol L⁻¹, Cl⁻: 1 mmol L⁻¹, SO₄²⁻: 1 mmol L⁻¹, HPO₄²⁻: 1 mmol L⁻¹, Fe³⁺: 0.5 mmol L⁻¹, sucrose: 1 mmol L⁻¹, glucose: 1 mmol L⁻¹, maltose: 1 mmol L⁻¹, lactose: 1 mmol L⁻¹, fructose: 0.5 mmol L⁻¹, vitamin C: 1 mmol L⁻¹, H₂O₂: 60 µmol L⁻¹)