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Supporting Information

Synergistic SERS enhancement and in situ monitoring of photocatalytic reaction in plasmonic metal/ferroelectric hybrid system by light-induced pyroelectric effect

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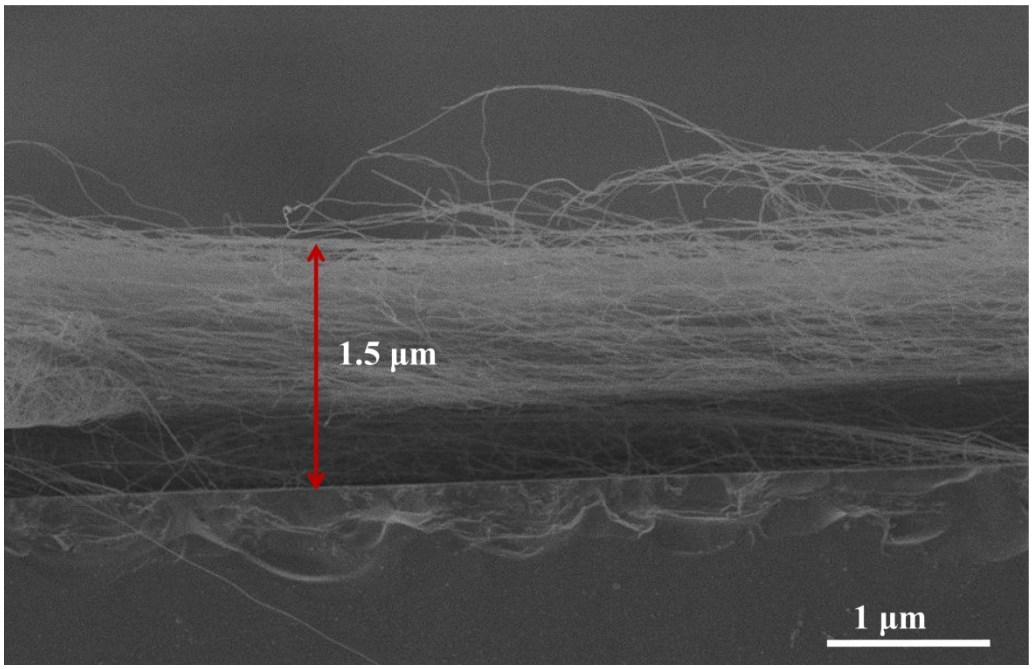

Fig. S1. SEM cross-sectional view of $BiFeO_3$/Carbon nanofibers.

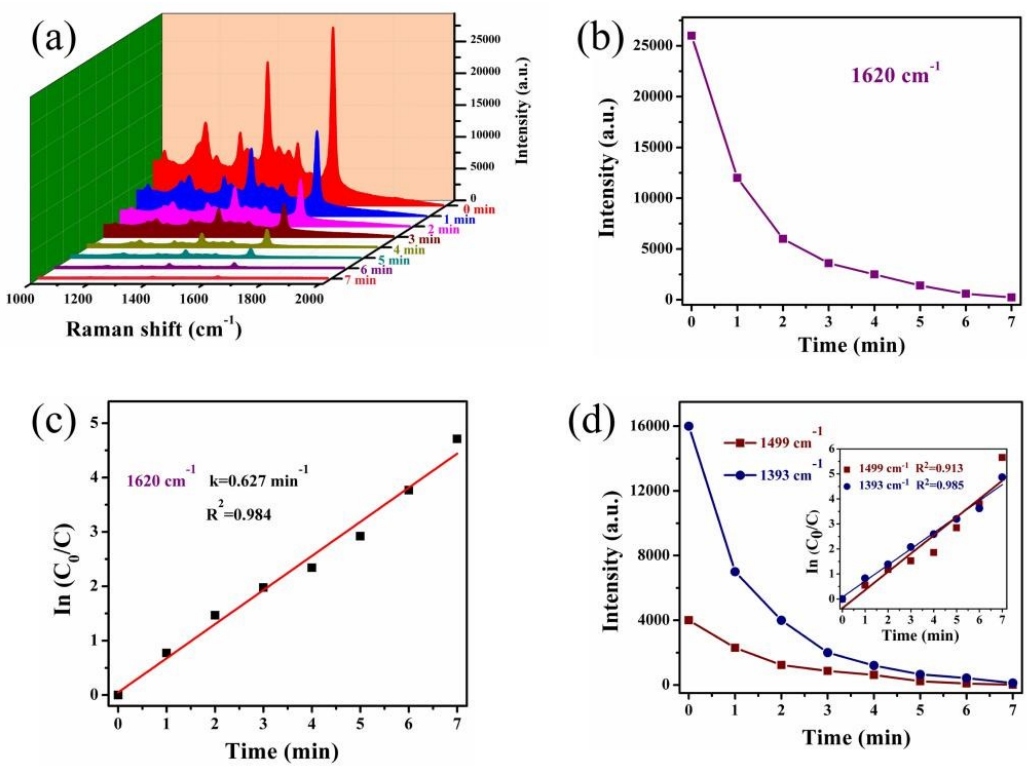

Fig. S2. (a) In situ SERS spectra of MB exposed to 532 nm laser irradiation using Ag-$BiFeO_3$/CNFs as substrate. (b) The relative intensity of the Raman band at 1620 cm^{-1} as a function of measurement time. (c) The concentration variation ($ln(C_0/C)$) versus reaction time. (d) The relative intensity of the Raman band at 1393 and 1499 cm^{-1} as a function of measurement time and corresponding the concentration variation ($ln(C_0/C)$) versus reaction time.

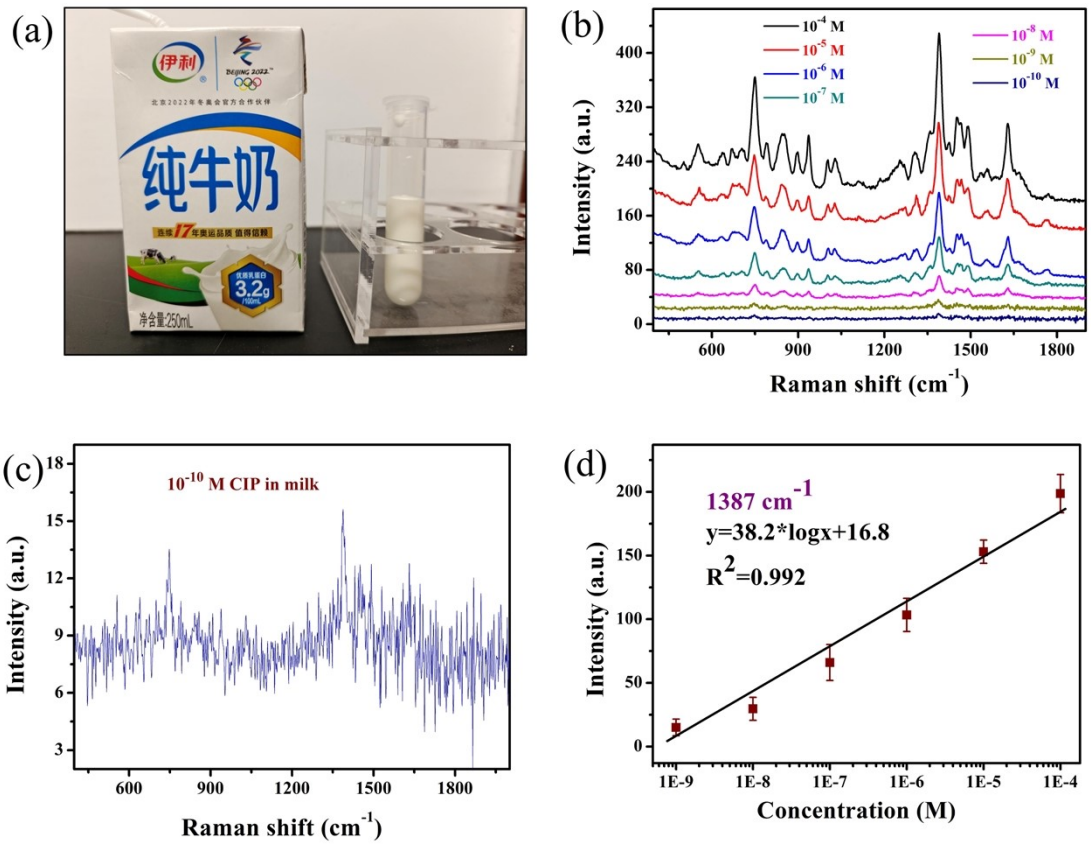

Fig. S3. (a) The physical picture of milk used for testing. (b) SERS spectra of CIP in milk at different concentrations from 10^{-10} to 10^{-4} M using Ag nanowires-$BiFeO_3$/CNFs SERS substrate, (b) SERS signal at a concentration of 10^{-10} M. (d) The curve relationship between SERS intensity at 1387 cm^{-1} and concentrations of CIP solution.