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Supporting Information

Prediction of Premature rupture of membranes via Simultaneous Detection of Procalcitonin and Interleukin-6 by a SERS-Based Immunochromatographic assay

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Results and discussion

SERS imaging of SERS-ICA

In order to investigate the uniformity of the surface SERS signal, a mapping experiment of T1 line and T2 line was carried out after adding DTNB and 4-MBA on the surface. As displayed in Fig. S1A and B, the scanning range on the T1 line and T2 line was 40×40 μm^2, the intensity of characteristic peak at 1337 cm^{-1} and 1594 cm^{-1} were displayed by the color of SERS mapping signal according to a color scheme ranging from blue (lowest intensity) to red (highest intensity). Although some polymers can still be found, the SERS-ICA strip had an uniform SERS enhancement effect.

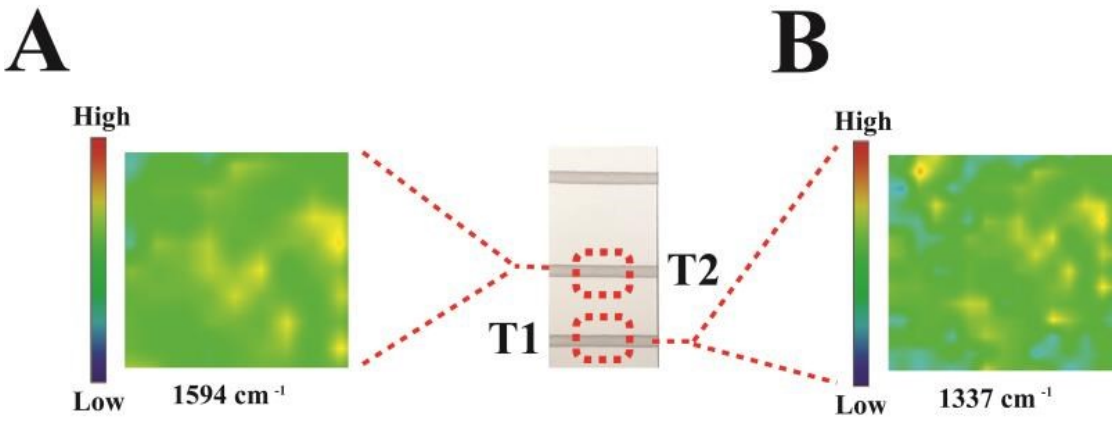

Fig. S1 (A) SERS mapping of 4-MBA measured at 1594 cm^{-1} of T2 line on the SERS-ICA strip. (B) SERS mapping of DTNB measured at 1594 cm^{-1} of T1 line on the SERS-ICA strip.

The stability of SERS-ICA

Fig.S2 showed the stability of SERS-ICA strip. The SERS-ICA strips were stored at room temperature for 0 day, 2 days, 4 days, 6 days, 8 days and 10 days. As shown in Fig. S2A and Fig. S2C, no obvious changes were observed in both of the SERS spectral peak and shape. Fig. S2B displayed corresponding scattergram of the peak intensity at 1337 cm^{-1}, the peak intensity at 10 days only reduced by 7.15% compared with the one at 0 day. As shown in Fig. S2D, with 1594 cm^{-1} as the reference peak,

the small deviation of the five peak intensities (10.4%) indicated SERS-ICA strip has a stable SERS enhancement effect.

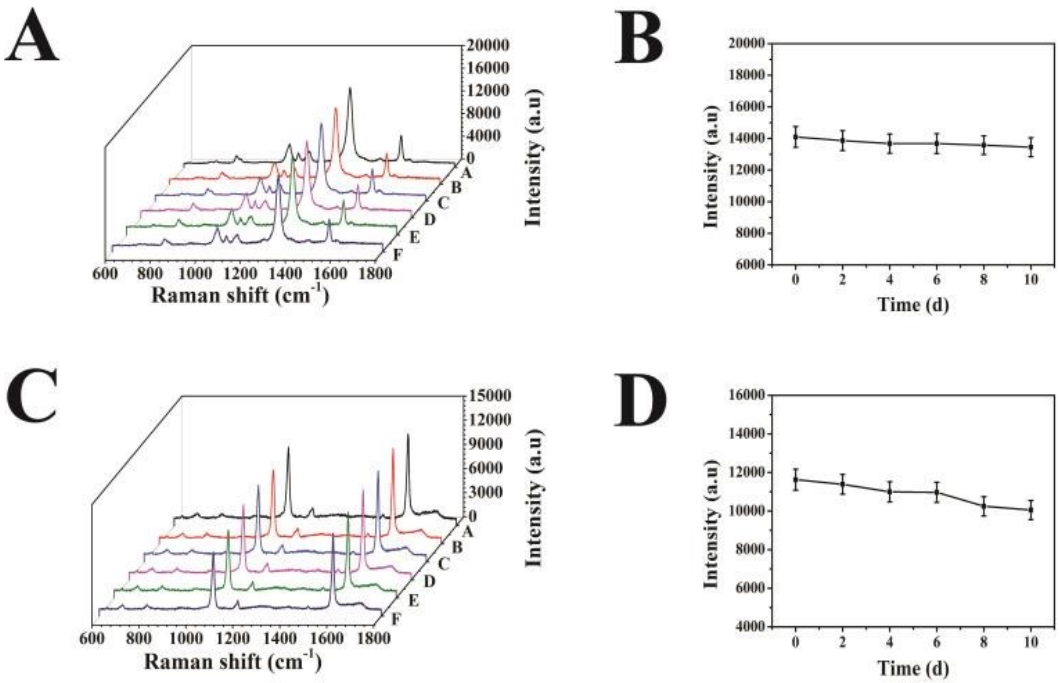

Fig. S2 Stability of the SERS-ICA strip. (A) SERS spectra on T1 line of SERS-ICA strips. (B) Corresponding scattergram of the peak intensity at 1337 cm^{-1}. (C) SERS spectra on T2 line of SERS-ICA strips. (D) Corresponding scattergram of the peak intensity at 1594 cm^{-1}.