

## Supplementary Materials

### Simultaneous Detection of Inflammatory Biomarkers by SERS Nanotag- Based Lateral Flow Assay with Portable Cloud Raman Spectrometer

**Yang Li<sup>1</sup>, Xiaojia Liu<sup>2,3</sup>, Jiuchuan Guo<sup>4</sup>, Yueting Zhang<sup>1</sup>, Jinhong Guo<sup>4</sup>,  
Xinggui Wu<sup>5,\*</sup>, Bo Wang<sup>1,\*</sup>, and Xing Ma<sup>2,3,\*</sup>**

<sup>1</sup> School of Materials Engineering, Shanghai University of Engineering Science, Shanghai, 201620, China; liyang18124@163.com (Y.L.); 15039066601@163.com (Y.Z.)

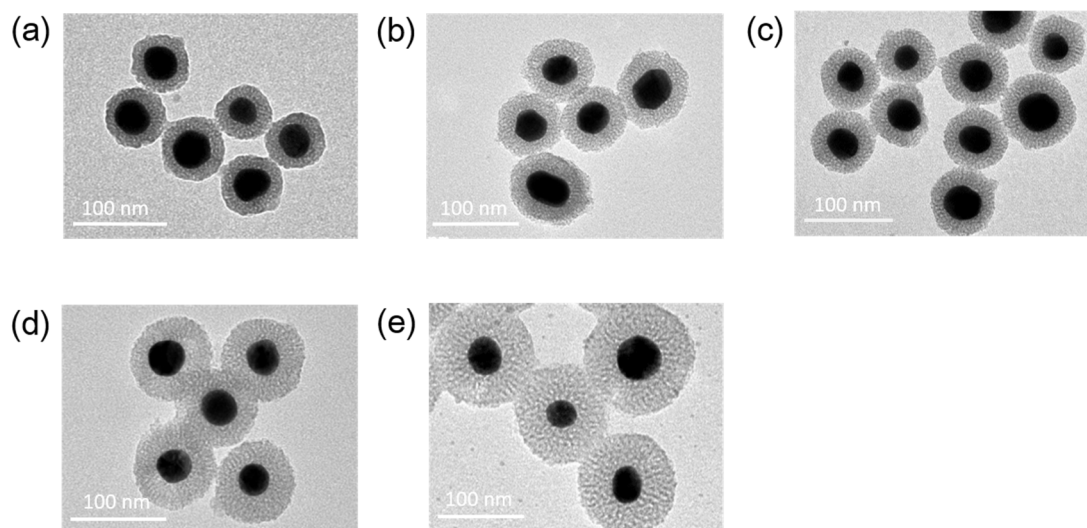
<sup>2</sup> Sauvage Laboratory for Smart Materials, School of Materials Science and Engineering, Harbin Institute of Technology (Shenzhen), Guangdong, Shenzhen, 518055, China; 18b954089@stu.hit.edu.cn (X.L.)

<sup>3</sup> Shenzhen Bay Laboratory, No. 9 Duxue Road, Shenzhen 518055, China

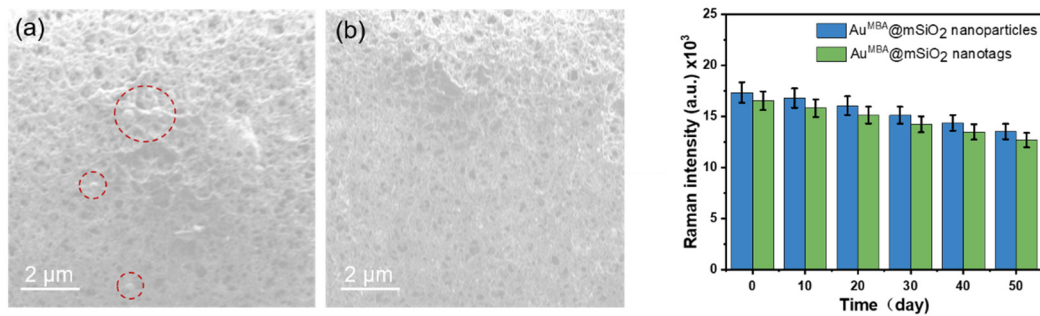
<sup>4</sup> School of Communication and Information Engineering, University of Electronic Science and Technology of China, Chengdu 611731, China; uestc\_gjc@163.com (J.G.)

<sup>5</sup> CloudMinds, Inc., Shenzhen Bay Science and Technology Ecological Park, Nanshan District, Shenzhen 100022, China; gelvin.wu@cloudminds.com (X.W.)

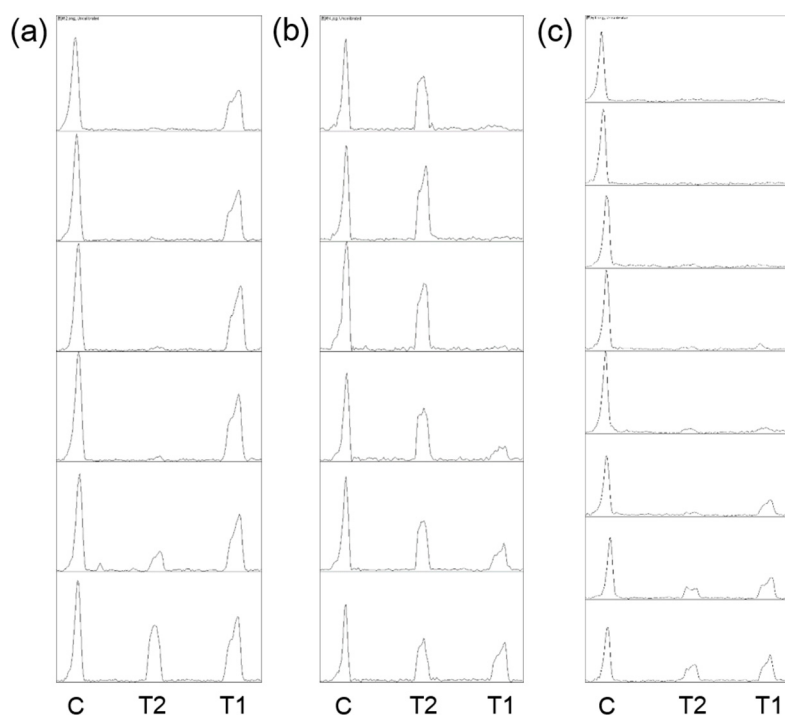
\* Correspondence: gelvin.wu@cloudminds.com (X.W.); wangbo@sues.edu.cn (B.W.); maxing@hit.edu.cn (X.M.)



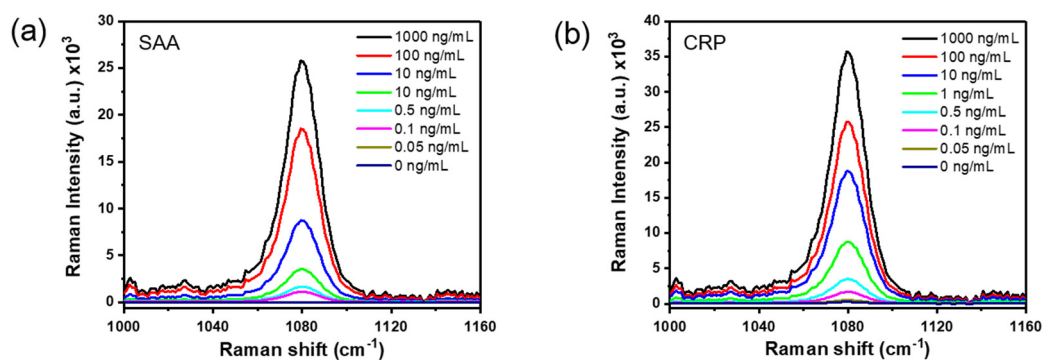
**Figure S1:** TEM images of Au<sup>MBA</sup>@mSiO<sub>2</sub> NPs with different TEOS usage (μL): (a) 140; (b) 160; (c) 180; (d) 200; (e) 400.



**Figure S2:** SEM images of LFA trips in Figure 4: (a) 1000 ng/mL, (b) 0 ng/mL. (c) The relationship between the total Raman intensities of ten Au<sup>MBA</sup>@mSiO<sub>2</sub> nanoparticles and nanotags at 1079 cm<sup>-1</sup> and the storage time of the nanoparticles.



**Figure S3:** (a), (b), (c) are the brightness curves of two test lines and one control line corresponding to the LFA strips in Figure 3 (a), (d) and Figure 4 (a), respectively. The area of the peak in the brightness curve is the brightness value.



**Figure S4:** (a,b) Averaged Raman spectra of two test lines for different concentrations of SAA and CRP corresponding to the SERS-LFA strips in Figure 4 (a) measured by a confocal Raman spectrometer.