## **Supporting Information**

## A Self-Calibrating Flexible SERS Substrate Incorporated PB@Au Assemblies for Reliable and Reproducible Detection

Jie Zhou, <sup>a</sup> Huiting Wang, <sup>a</sup> Yaxian Chen, <sup>a</sup> Dongxue Lin, <sup>a</sup> Ling Zhang, <sup>b</sup> Zhiqiang Xing, <sup>a</sup> Qian Zhang \*a and Jiarui Xia \*c

a College of Chemistry, Liaoning University, Shenyang, 110036, China.

b College of Chemistry and Life Science, Shenyang Normal University, Shenyang 110034, China.

c Institute of Health Sciences, China Medical University, Shenyang, 110122, China.

\*Corresponding author.

E-mail: zhangq@lnu.edu.cn;

Phone and fax: 86-24-62202258;

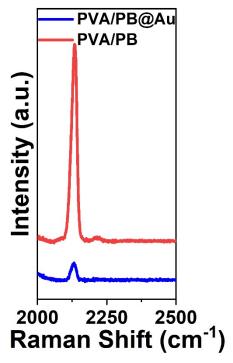
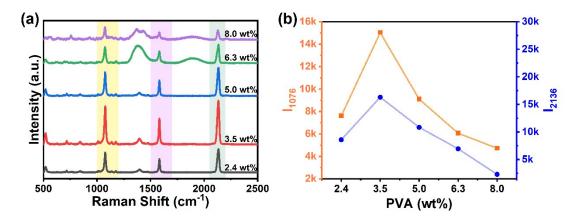


Fig S1. Raman spectrum of PVA/PB film and SERS spectrum of PVA/PB@Au film.



**Fig S2**. SERS spectra of  $10^{-4}$  M 4-MBA adsorbed on PVA/PB@Au films synthesized with different concentrations of PVA solutions (a).  $I_{1076}$  and  $I_{2136}$  at different concentrations of PVA solutions (b).