

## Supporting Information

### **Lab-on-fiber sensors with Ag/Au nanocap arrays for in situ surface-enhanced Raman scattering detection facilitated by thermophoresis**

Meng Shi <sup>a, b, \*, 1</sup>, Shifang Gao <sup>b, 1</sup>, Liang Shang <sup>b</sup>, Linan Ma <sup>b</sup>, Wei Wang <sup>a</sup>, Sheng Xue <sup>c</sup>,  
Xiaobo Xing <sup>c</sup>, Guangqiang Liu <sup>b</sup>, Zongbao Li <sup>d, e, \*</sup>

<sup>a</sup> School of Physical Science and Intelligent Engineering, Jining University, Shandong 273155, China

<sup>b</sup> Shandong Provincial Key Laboratory of Laser Polarization Technology, Qufu Normal University, Qufu 273165 Shandong, China

<sup>c</sup> South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou 51206, China

<sup>d</sup> Ministry of Education Key Laboratory of Textile Fiber Products, School of Materials Science and Engineering, Wuhan Textile University, Wuhan, 430200, China

<sup>e</sup> School of Materials and Chemical Engineering, Tongren University, Guizhou 554300, China

\* Corresponding Authors.

E-mail addresses: [zongbaoli1982@163.com](mailto:zongbaoli1982@163.com) (Z. Li); [philipyes@163.com](mailto:philipyes@163.com) (M. Shi)

<sup>1</sup> These authors contributed equally.

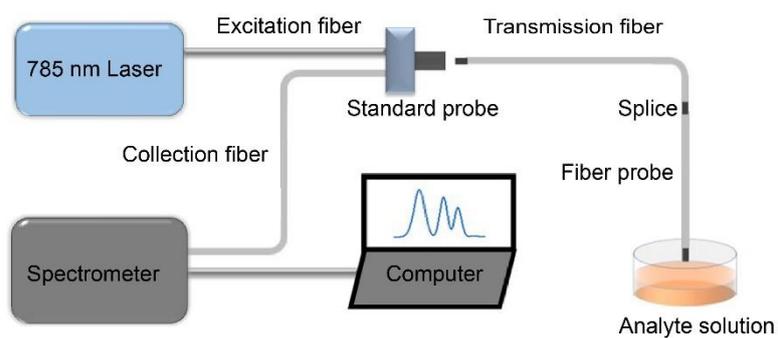


Figure S1. The schematic diagram of the setup in SERS detection.

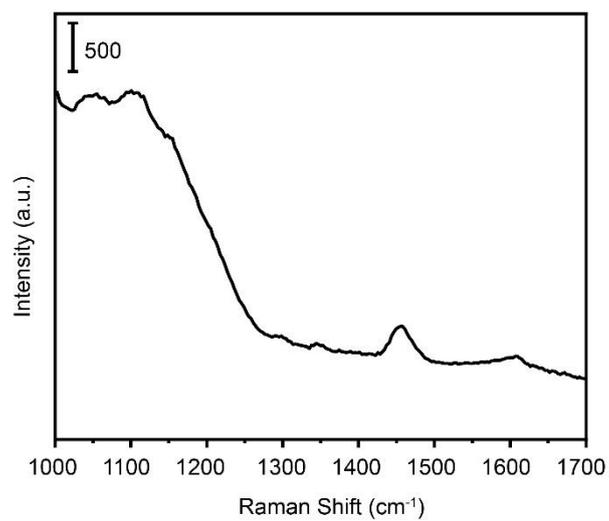


Figure S2. The dark Raman scattering noise generated by the fiber probe.

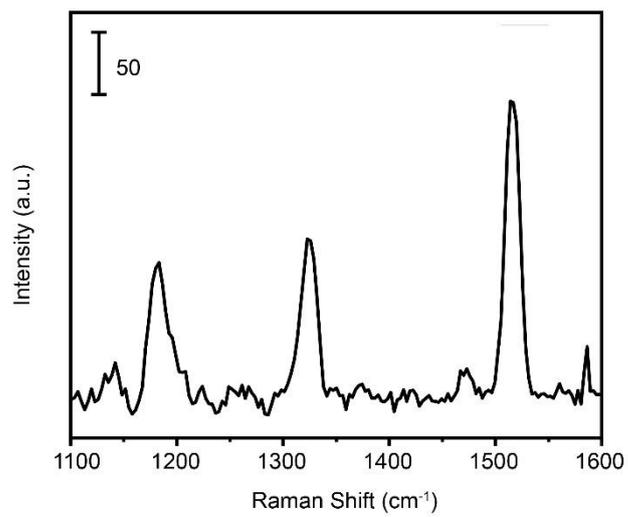


Figure S3. Normal Raman spectrum of R6G ( $10^{-2}$  M) measured by using a naked fiber probe.