

Electronic Supporting Materials

Portable Raman Spectroscopy Combined with Machine Learning for High-Sensitive and Rapid Detection of Food Pollutants with Flexible Ag@TiO₂@Polyester SERS Substrates

Yingying Huang ^{a,b}, Daqian Lu^d, Sihang Zhang^e, Shouxiang Jiang ^{*b,c}, Yonghui Zhou^a, Jiangtao Xu ^{*a,b}

- a. College of Materials and Energy, South China Agricultural University, 510640, Guang Zhou, China
- b. School of Fashion and Textile, The Hong Kong Polytechnic University, 999077, Hong Kong, China
- c. Research Institute for Intelligent Wearable Systems, The Hong Kong Polytechnic University, Hung Hom, Kowloon, 999077, Hong Kong, China
- d. School of Optometry, The Hong Kong Polytechnic University, 999077, Hong Kong, China
- e. School of Food Science and Engineering, Hainan University, Haikou, 570228, China

E-mail: jiangtao.xu@scau.edu.cn; kinor.j@polyu.edu.hk

Figure S1 UV-vis Spectra

Figure S2 Raman spectra of MG and PET.

Figure S3 Size statistics of cavity from random 100 points

Figure S4 VB calculation based on XPS spectra

Figure S5 Image and Raman spectra of CV

Figure S6 Image and Raman spectra of MG

Figure S7 Raman spectra of (a-c) mixed CV and R6G with the concentration of 10⁻⁵ M and (d-f) mixed CV and R6G with the concentration of 10⁻⁶ M

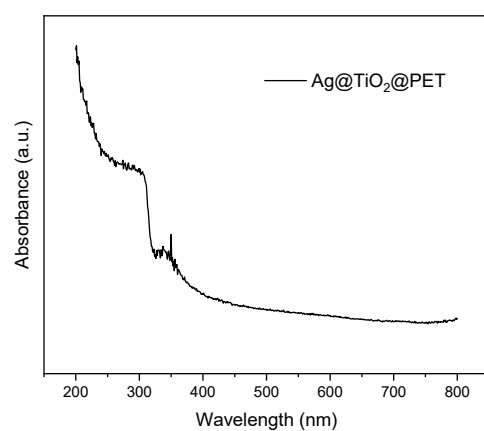


Figure S1 UV-vis Spectra

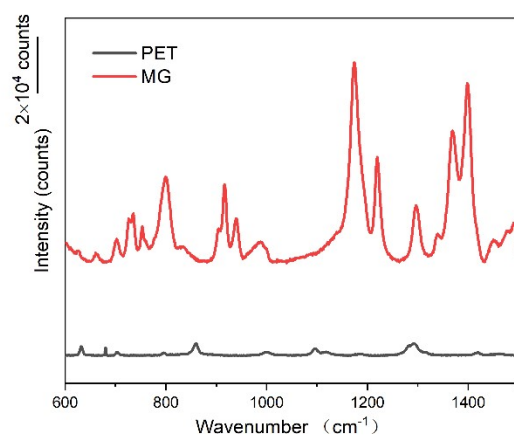
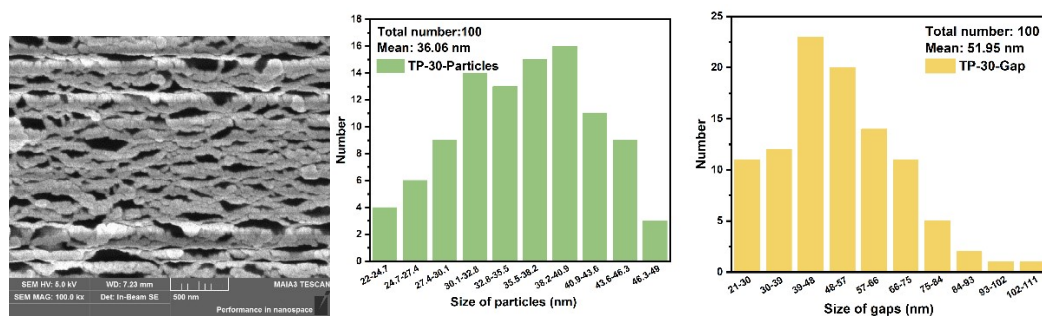


Figure S2 Raman spectra of PET and MG.



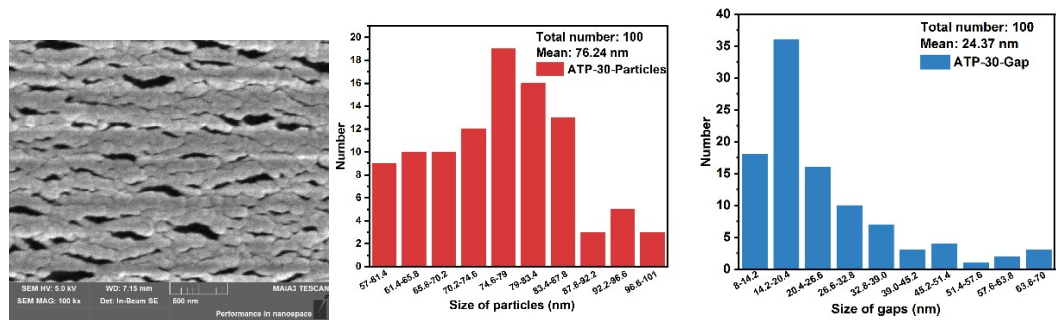


Figure S3 Size statistics of cavity from random 100 points

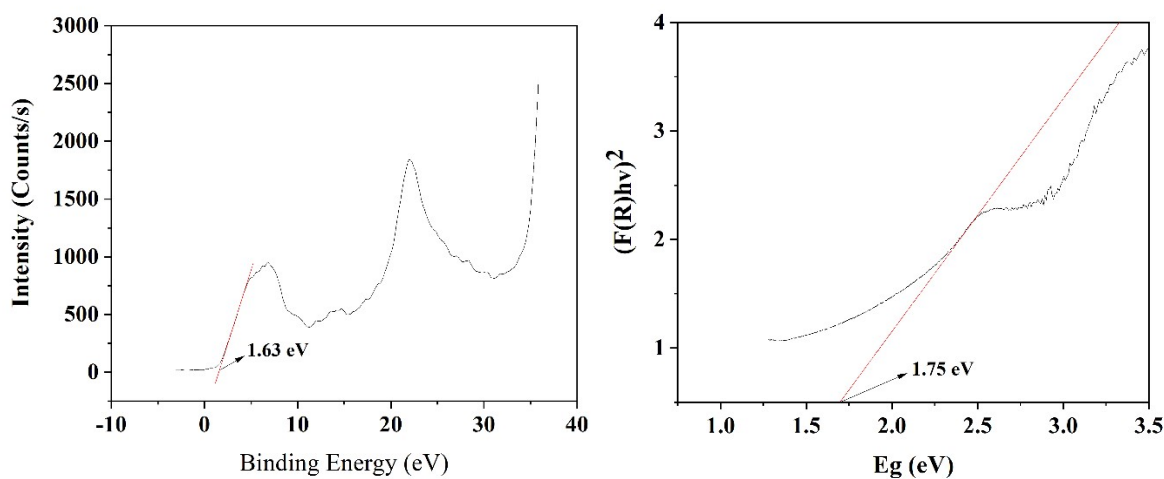


Figure S4 VB calculation based on XPS spectra, and E_g of TiO_2

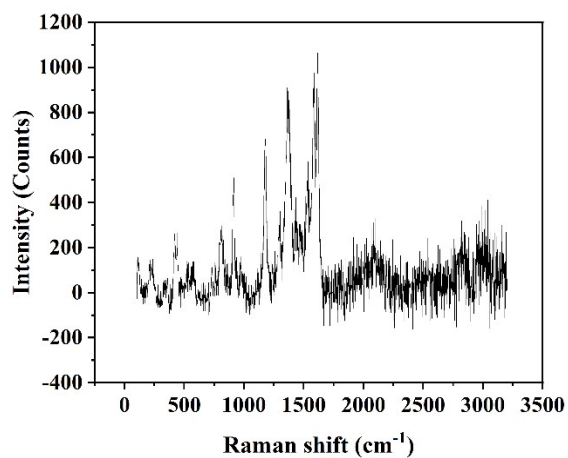


Figure S5 Image and Raman spectra of CV powder.

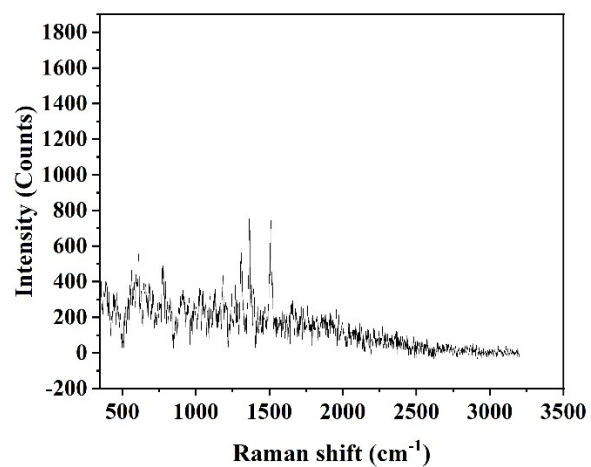


Figure S6 Image and Raman spectra of R6G powder.

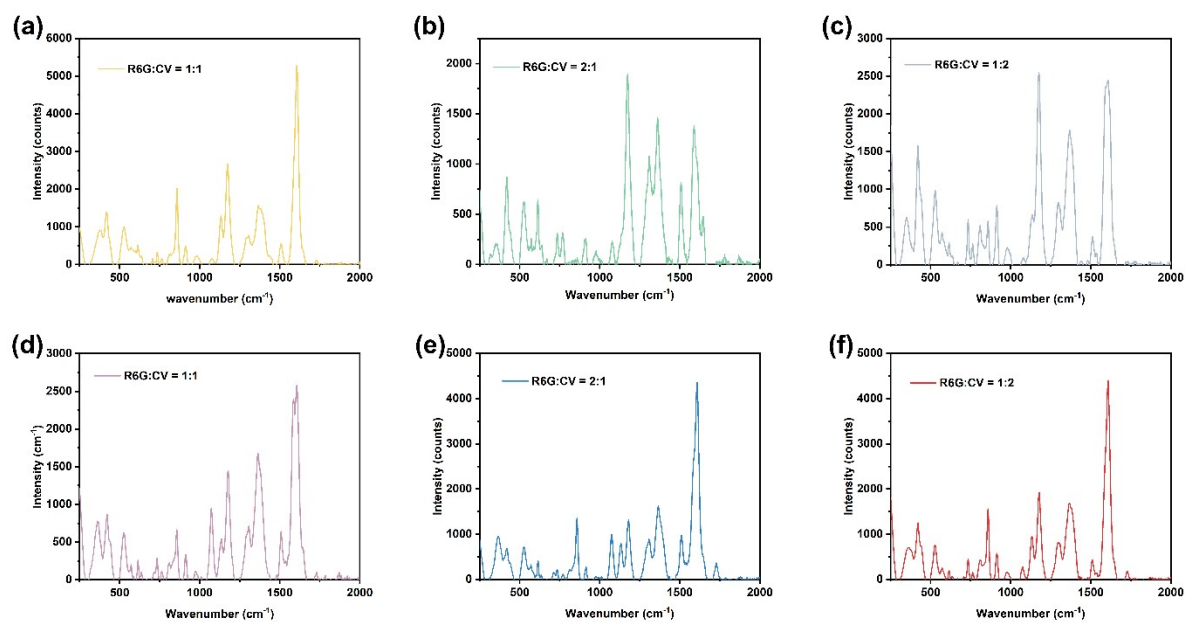


Figure S7 Raman spectra of (a-c) mixed CV and R6G with the concentration of 10^{-5} M and (d-f) mixed CV and R6G with the concentration of 10^{-6} M