

## Supplementary information

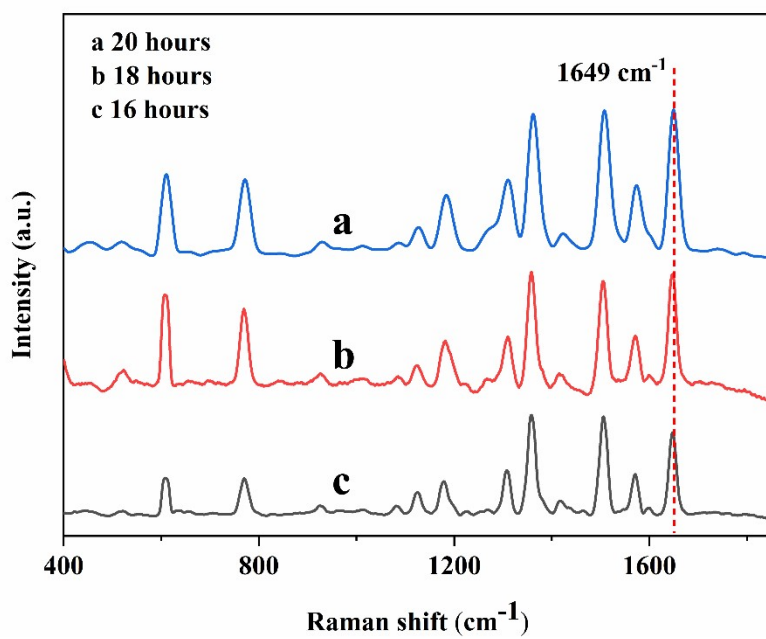
### **Improved SERS performance of silver triangular nanoparticles/TiO<sub>2</sub> nanoarrays heterostructure and its application for food additives detection**

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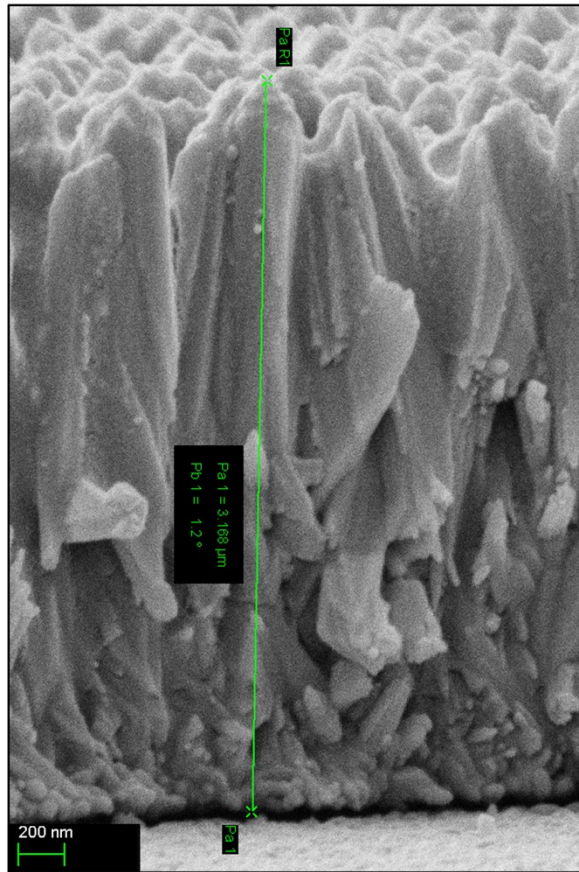
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**Fig. S1.** SERS spectra of R6G ( $10^{-7}$  M) on AgNTs/TNA substrates composed of TNA obtained at different hydrothermal times of 16 hours (a), 18 hours (b), 20 hours (c).



**Fig. S2.** SEM micrographs of TNA/FTO.

**Table S1** Comparison of different Raman Substrates for food additives detection

Substrate	Analyte	LOD (M)	LOD (M) for Reals samples	Advantages	Ref
Ag/TNA	R6G	$10^{-7}$	-	-	1
Au@Ag/3D-Si	R6G	$10^{-8}$	-	-	2
Gold Nanorods	CV and MG	$2.5 \times 10^{-9}$	$2.5 \times 10^{-9}$	Multiplex detection	3
TiO <sub>2</sub> -Ag-GO nanoarrays	CV, R6G, MG, Thiram	CV ( $10^{-9}$ ) R6G ( $10^{-8}$ ) MG ( $10^{-7}$ ) Thiram ( $10^{-7}$ )	CV ( $10^{-8}$ ) Thiram ( $10^{-6}$ )	Multiplex detection and recyclability	4
AgNTs/TNA	CV, R6G, MG, Thiram	CV ( $10^{-9}$ ) R6G ( $10^{-7}$ ) MG ( $10^{-8}$ ) Thiram ( $10^{-7}$ )	CV ( $10^{-8}$ ) MG ( $10^{-7}$ )	Multiplex detection and recyclability	This work

## Reference

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