



Supplementary Materials

SERS Immunosensor of Array Units Surrounded by Particles: A Platform for Auxiliary Diagnosis of Hepatocellular Carcinoma

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Figure S1

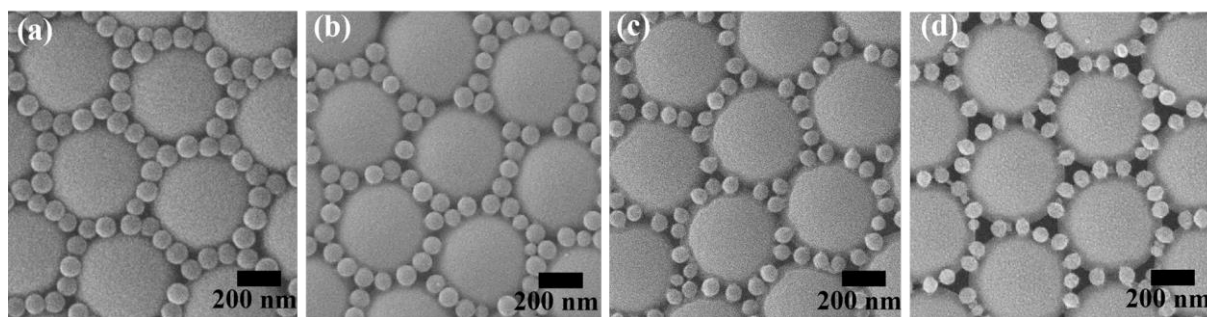


Figure S1. (a–d) SEM images of PS templates etched for 10, 20, 30 and 40 s.

Figure S2

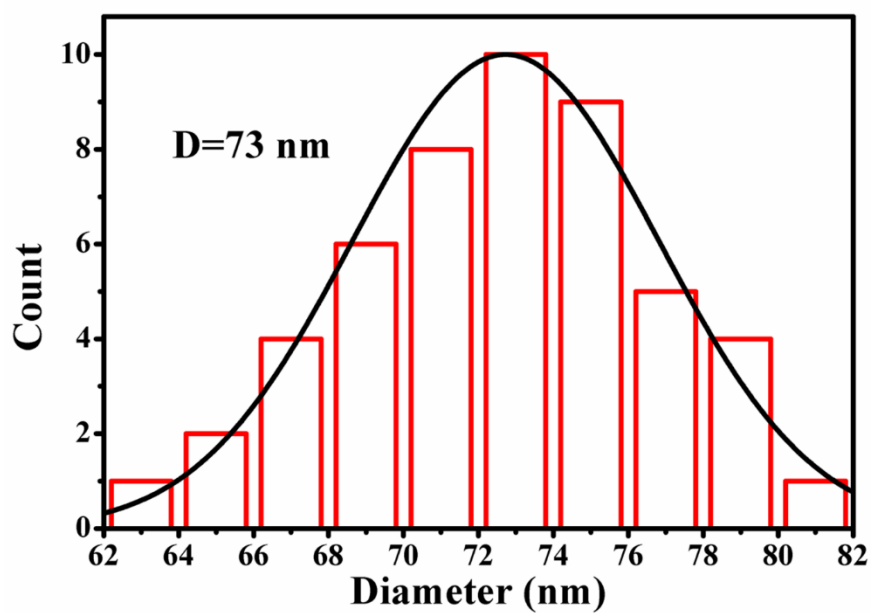


Figure S2. Histogram of the spheres diameter surrounding the unit in the PS template etched 30 s.

Figure S3

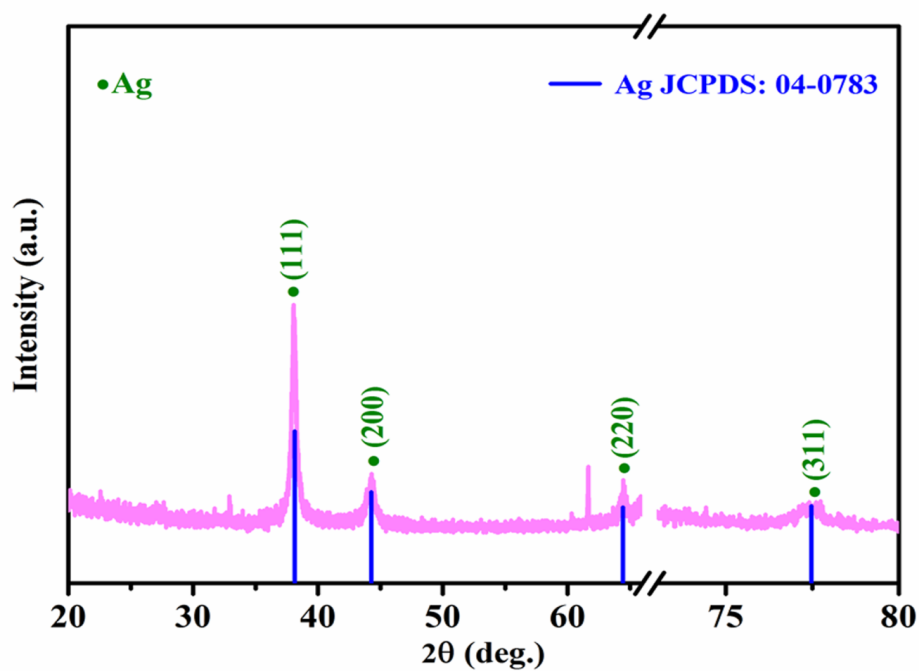


Figure S3. The XRD pattern of the Ag array of units surrounded by particles.

(111), (200), (220) and (311) crystal planes of Ag appeared. Diffraction peaks located at 37.96° , 44.2° , 64.58° and 77.26° match the corresponding plane of the Ag (JCPDS card no. 04-0783).

Figure S4

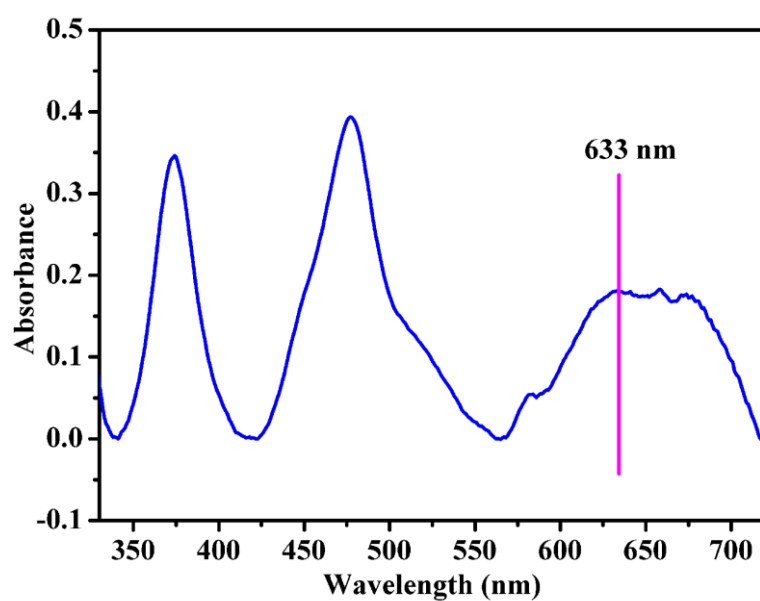


Figure S4. Absorption spectra of the Ag array of units surrounded by particles.

Figure S5

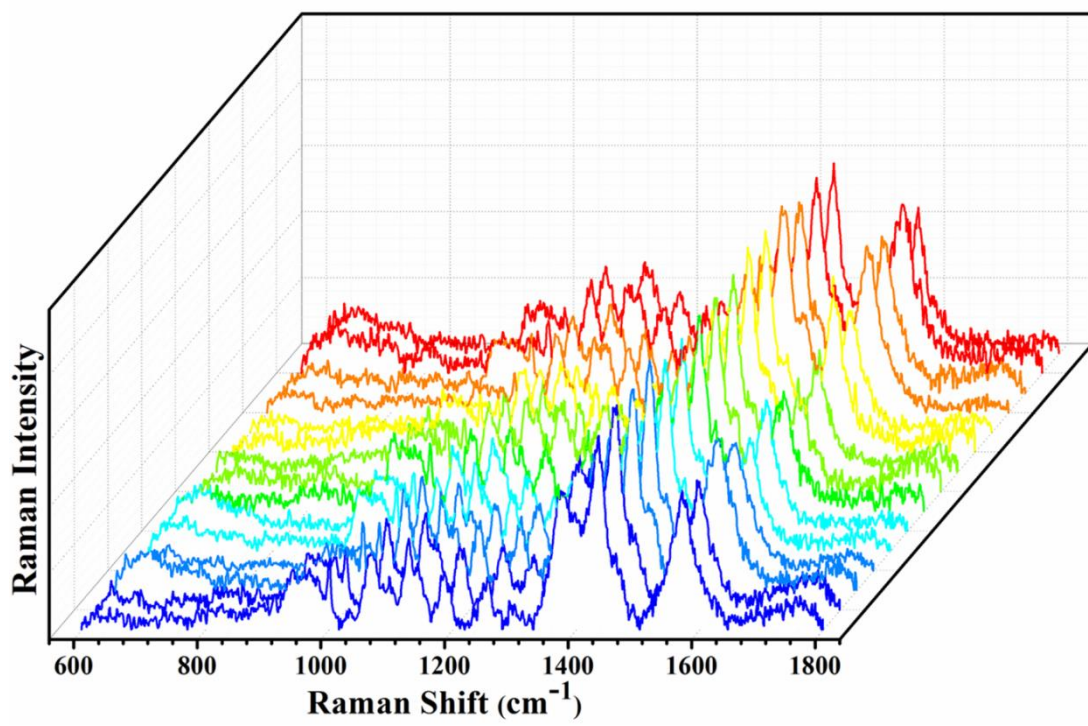


Figure S5. Characterization of the SERS stability of the array of units surrounded by particles.

The average value of the SERS peak intensity at 1436 cm^{-1} :

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} = 4201.4 \text{ cm}^{-1} \quad (1)$$

The corresponding standard deviation of the peak intensity:

$$S = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}} = 132.4 \text{ cm}^{-1} \quad (2)$$