Gradient SERS substrates with multiple resonances for analyte screening: Fabrication and SERS applications

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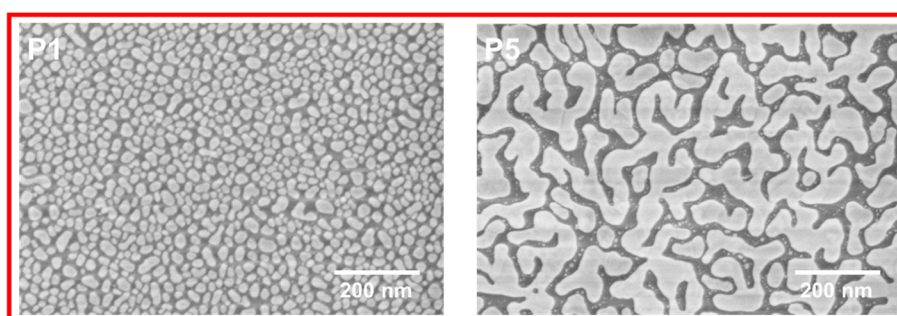
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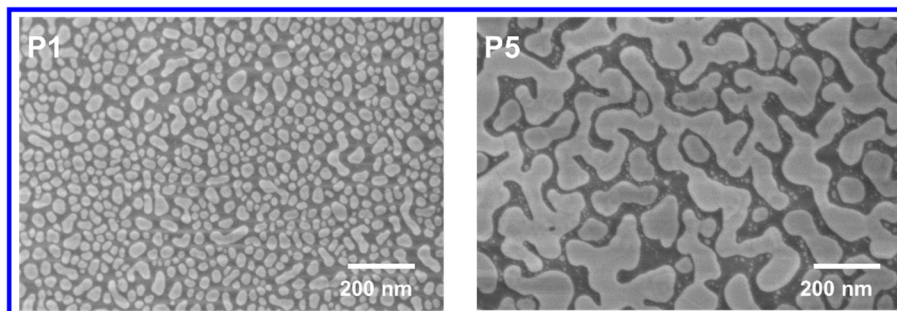
Figure S1. SEM images of different fabricated substrates (substrate 1 - red and substrate 2 - blue) at the same positions P1 and P5 to denote micro- and nano scale reproducibility.
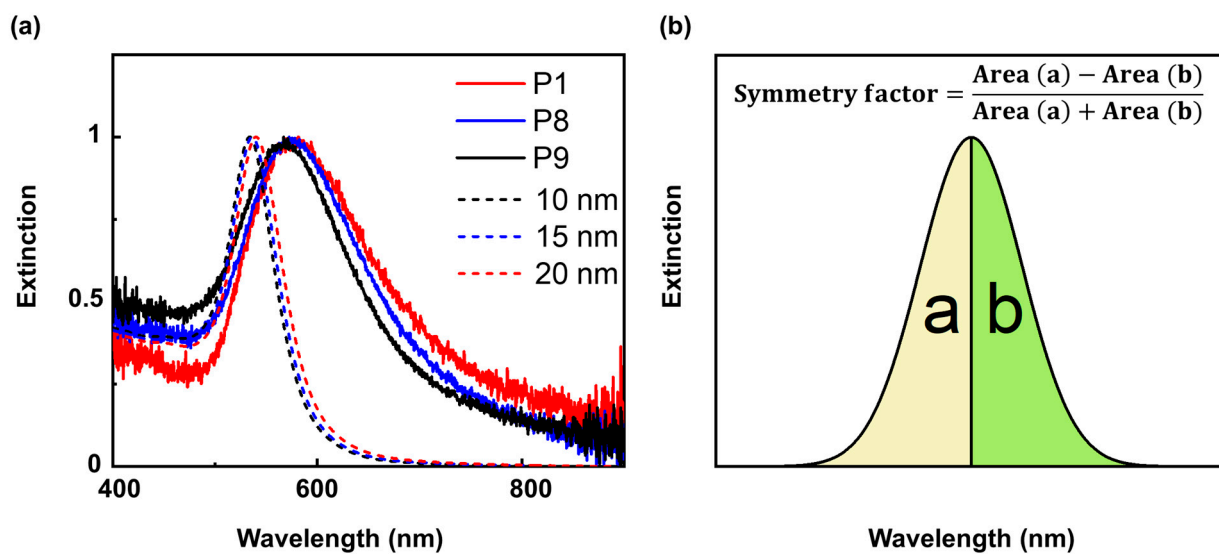
(a)

Extinction

— P1
— P8
— P9
--- 10 nm
--- 15 nm
--- 20 nm

1

0.5

0

400   600   800

Wavelength (nm)

(b)

Extinction

$$\text{Symmetry factor} = \frac{\text{Area (a)} - \text{Area (b)}}{\text{Area (a)} + \text{Area (b)}}$$

a | b

Wavelength (nm)

Figure S2. (a) Normalized extinction spectra at points P1, P8, and P9 (solid lines – red, blue, black) compared to normalized simulated extinction spectra from Mie theory for spherical gold NPs with radii of 10 nm, 15 nm, and 20 nm (dashed lines – red, blue, black), and (b) schematic and equation to determine the symmetry factor of an extinction curve.