

## Supporting Information for

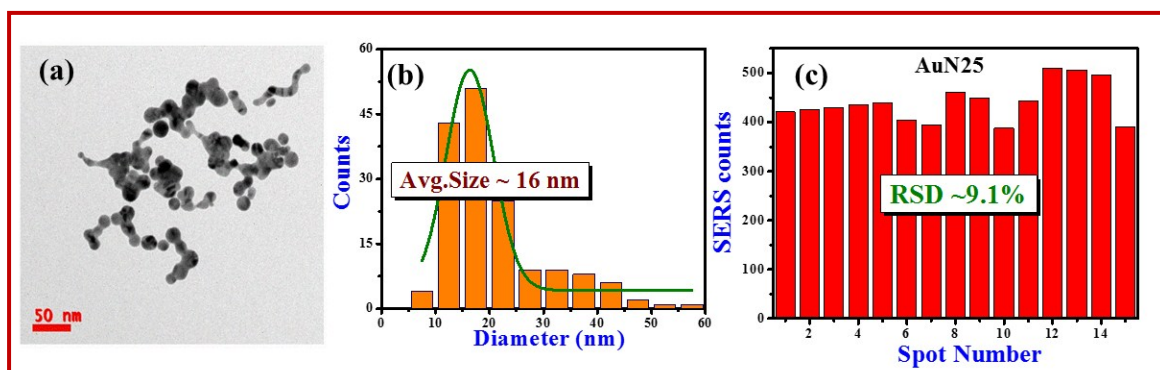
# SERS Based Multiple Analyte Detection from Dyes/Explosives Mixtures Using Picosecond Laser Fabricated Gold Nanoparticles and Nanostructures

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**Figure S1** NPs prepared at second time [repeated for a single energy (25 mJ, AuN25) after few weeks] (a) TEM image (b) NPs size distribution (c) estimated RSD values for SERS signals (DNT, 850  $\text{cm}^{-1}$  mode) obtained at 15 different positions on AuN25 (NPs drop-casted on si) substrate.

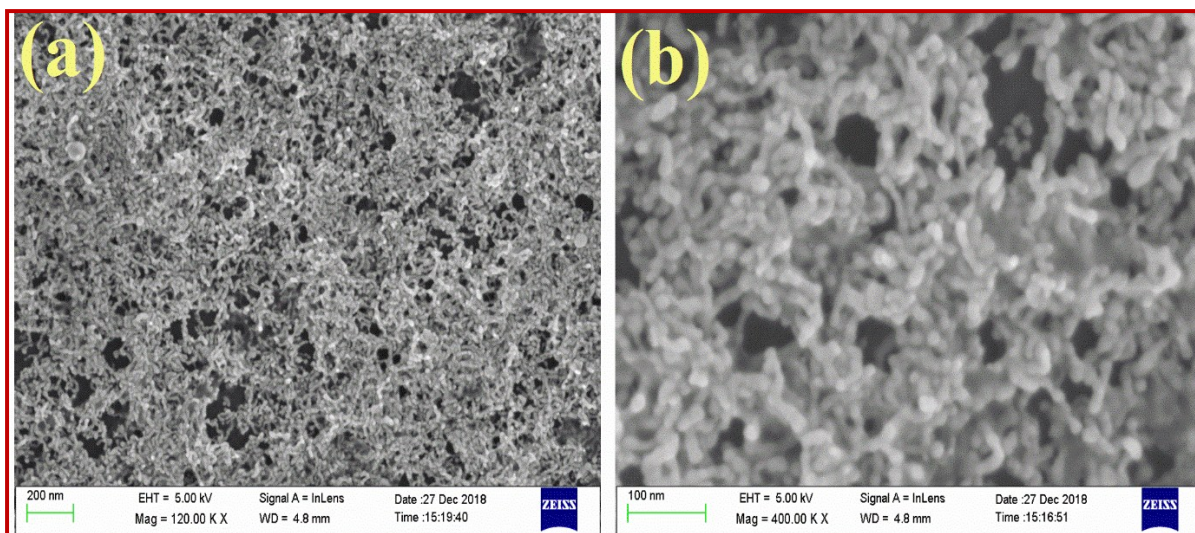


Figure S2 (a) lower and (b) higher magnification FESEM images of the Au N25 nanoparticles drop-casted on Si.

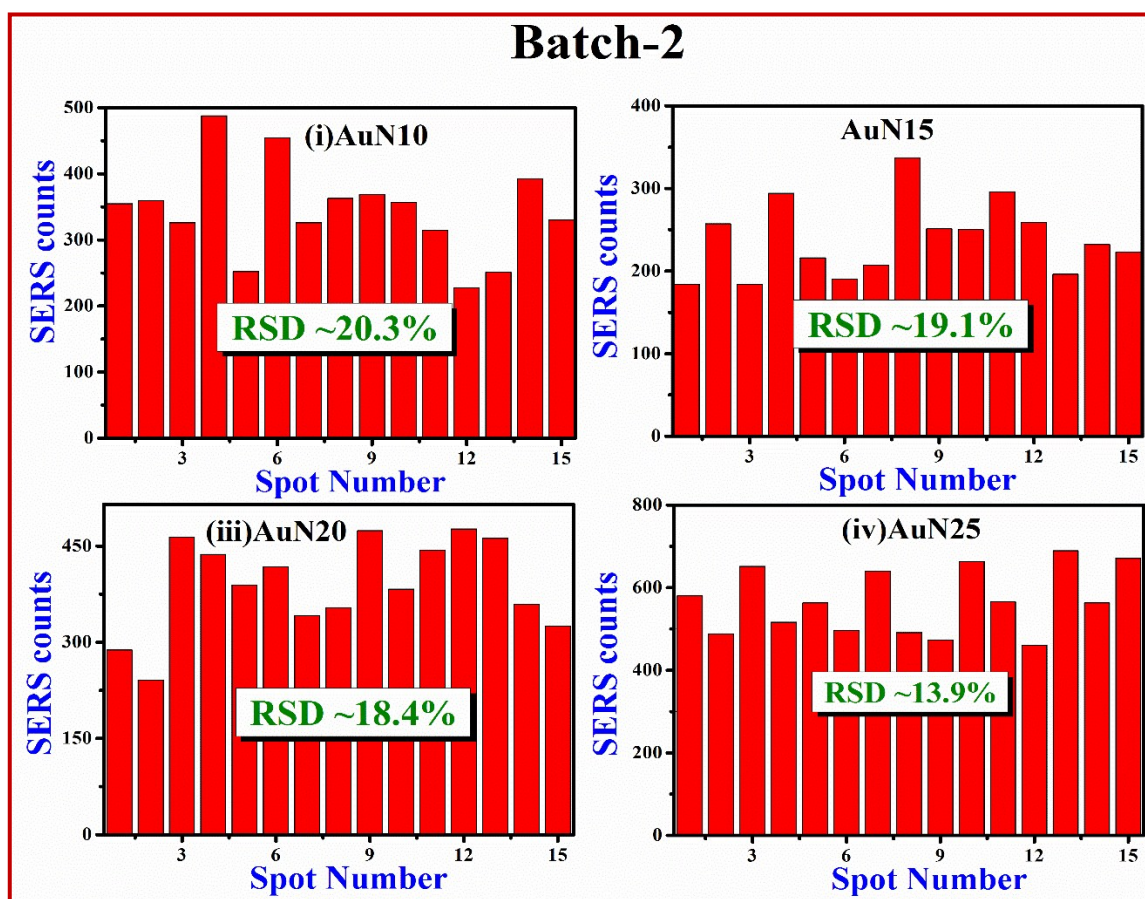


Figure S3 Calculated RSD values for the SERS signals (DNT, 850  $\text{cm}^{-1}$  mode) collected from the 2<sup>nd</sup> batch of fabricated NPs (i) AuN10, (ii) AuN15, (iii) AuN20, and (iv) AuN25.