Supporting Information

Synthesis and Characterization of Elongated-Shaped Silver Nanoparticles as a Biocompatible Anisotropic SERS Probe for Intracellular Imaging: Theoretical Modeling and Experimental Verification

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To ensure the stability of the NPs, the DLS have been plotted: just after the synthesis and 1 month after.

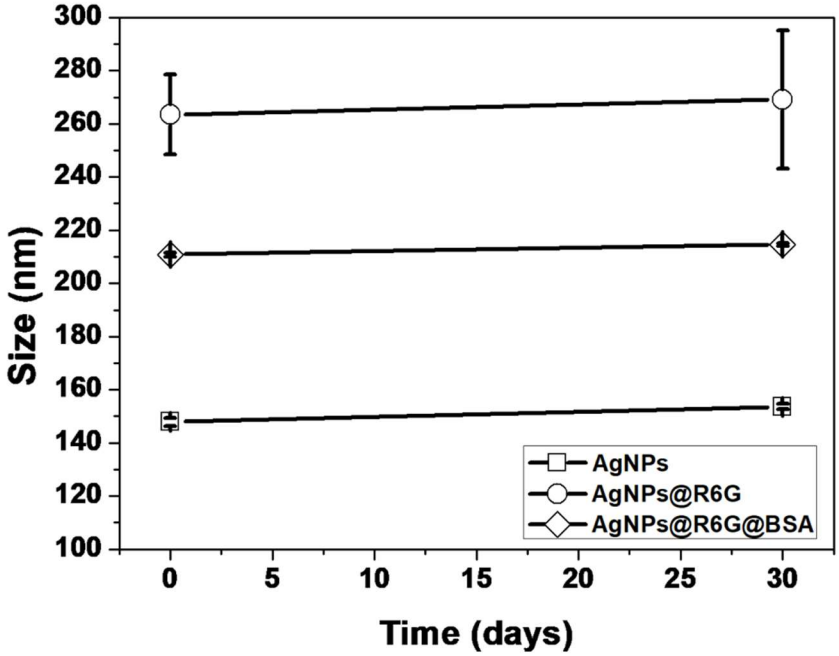

Figure S1. Hydrodynamic diameters of AgNPs (squares), AgNPs@R6G (spheres) and AgNPs@R6G@BSA (diamond)

In order to compare different experimental settings and some calculated data, the spectra of pure R6G, AgNP@R6G@BSA and calculated DFT interaction between R6G and silver atoms are shown:

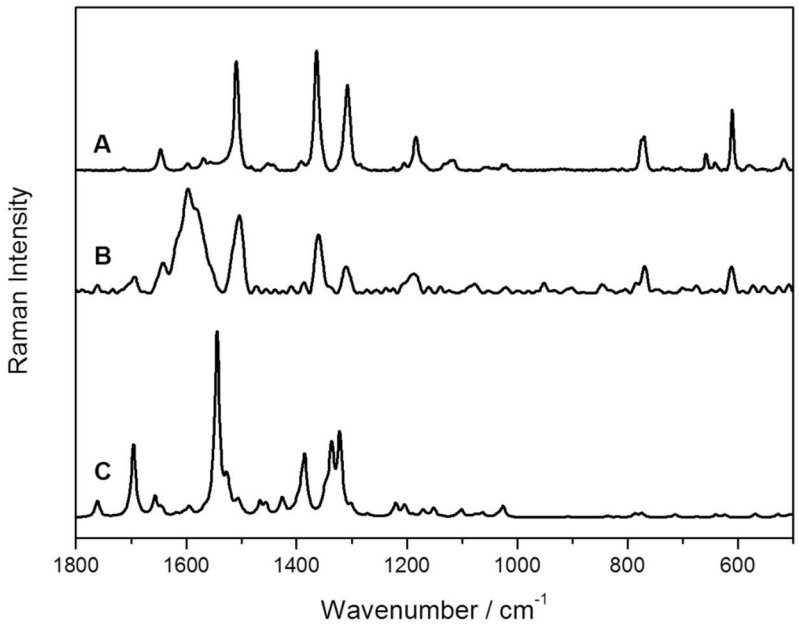

Figure S2. Comparison of Experimental Raman spectrum of pure R6G (A), Experimental SERS spectrum of AgNP@R6G@BSA (B) SERS spectrum obtained by DFT calculation (R6G interacting with a thin layer of 10 atoms of Ag) (C).

Table S1 shows the correspondence between the main peaks in the experimental and the calculated (DFT) spectra. All the assignments are related to Aromatic C–C stretching.

Experimental Wavenumber (cm^{-1})	Computational Wavenumber (cm^{-1})
1646	**1695**
1509	**1544**
1452	**1464**
1363	**1386**
1307	**1335**
1307	**1322**

Table S1. Comparison of changes in wavenumbers between the experimental Raman spectrum and the computational Raman spectrum.