Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

Supporting Information

Graphene oxide based surface-enhanced Raman scattering probes for cancer cell imaging

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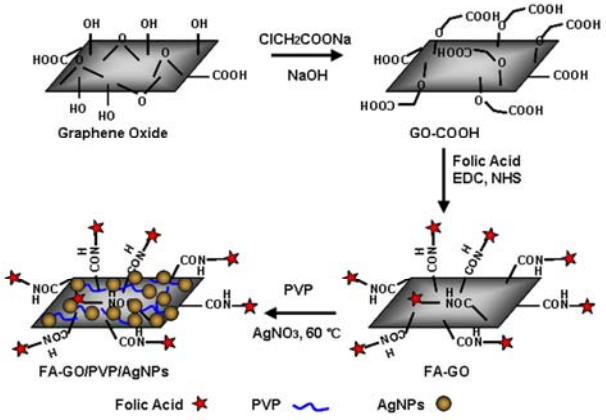

Scheme S1 Illustration of the fabrication of FA-GO/AgNPs.

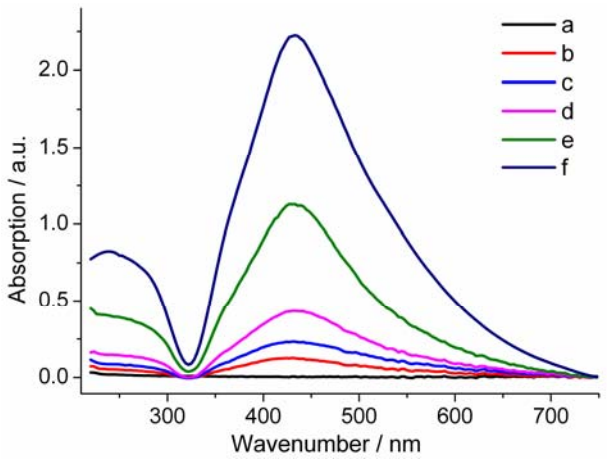

Fig. S1 UV-Vis absorption spectra of GO/AgNPs with identical graphitic carbon (5 μg/mL) prepared with a various weight ratio between the $AgNO_3$ and GO: 0 (a), 48 (b), 96 (c), 192 (d), 384 (e), 768 (f).

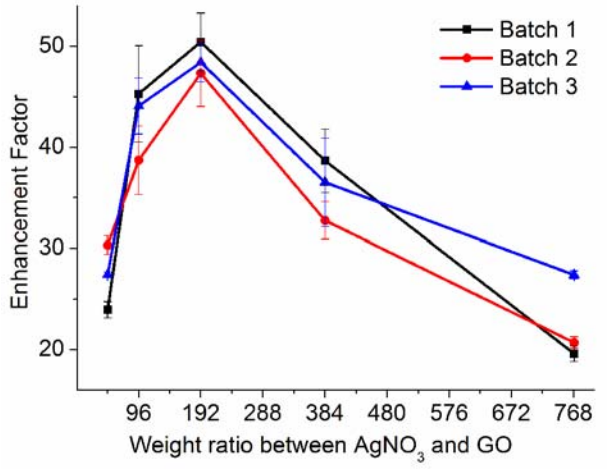

Fig. S2 Batch-to-batch reproducibility of the as-prepared GO/AgNPs samples. The uniform trends of EFs in response to the $AgNO_3$/GO ratio indicate a good reproducibility of the synthesis process. Errors bars are based on standard deviations (SD) of three parallel measurements of each sample.

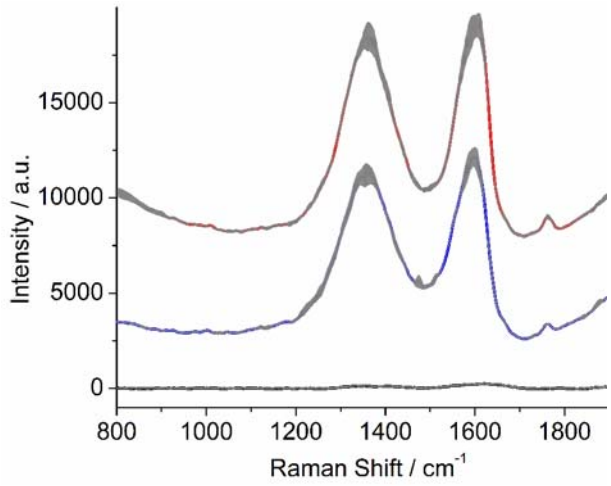

Fig. S3 The stability of the GO/AgNP hybrids. Black line represents the Raman spectrum of GO (25 μg/mL). Red line represents the SERS spectrum of as-prepared GO/AgNPs (192) with 25 μg/mL graphitic carbon. Blue line represents the SERS spectrum of GO/AgNPs (192) with 25 μg/mL graphitic carbon stored for two months. The SERS EF of GO/AgNPs (192) is measured as ~43.3 after two months storage, which is similar to the value of as-prepared hybrids (~48.4). The grey regions show the SD of three parallel measurements of each sample.

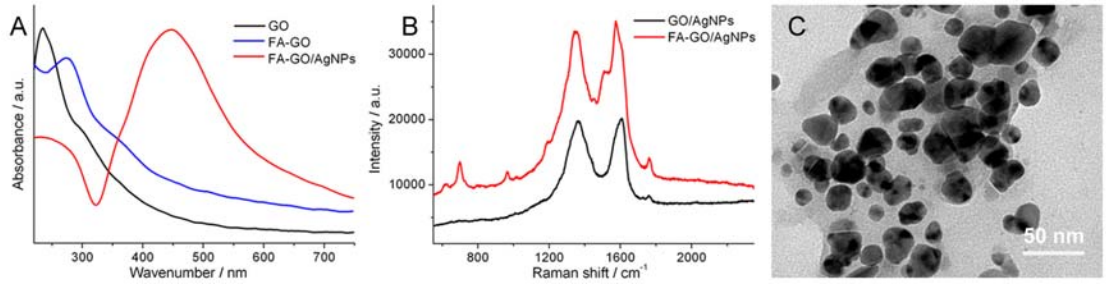

Fig. S4 Characterization of FA-GO/AgNPs. (A) UV-Vis absorption spectra. (B) SERS spectra. (C) TEM image of FA-GO/AgNPs.

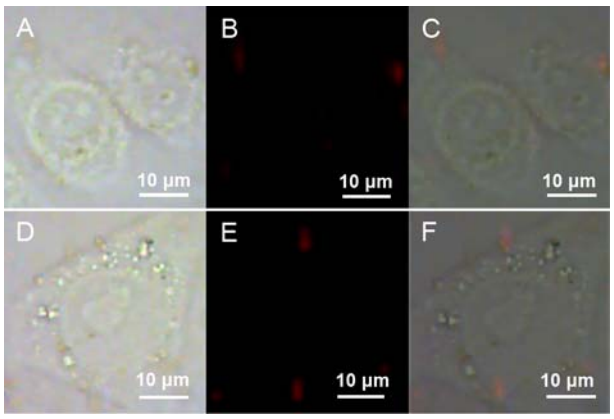

Fig. S5 Typical bright field images (A and D), SERS images (B and E) and the overlap images (C and F) of A549 cells (A-C) and HeLa cells (D-F) incubated with 1 μg/mL GO/AgNPs for 2h.