Electronic Supplementary Information

SERS Analysis of Carcinoma-associated Fibroblasts in Tumor Microenvironment Based on Targeted 2D Nanosheets

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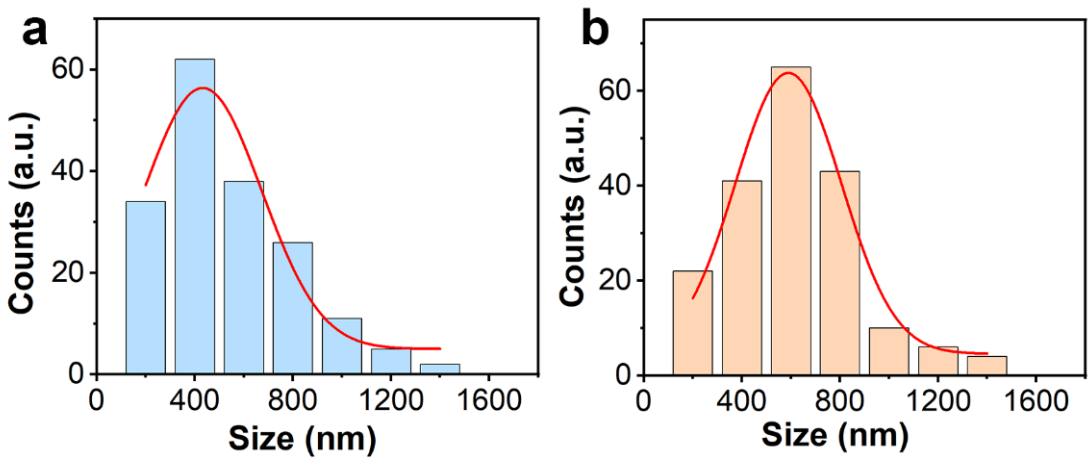

Fig. S1 Size distribution of a) MoS_2-Au NSs and b) BP-Au NSs.

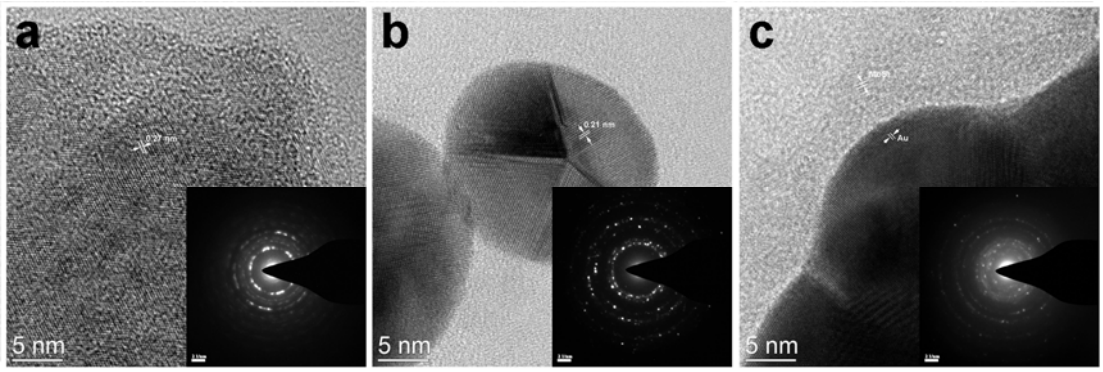

Fig. S2 HRTEM images of a) MoS_2 NSs, b) AuNPs and c) MoS_2-Au NSs, and corresponding SAED patterns (Inserts).

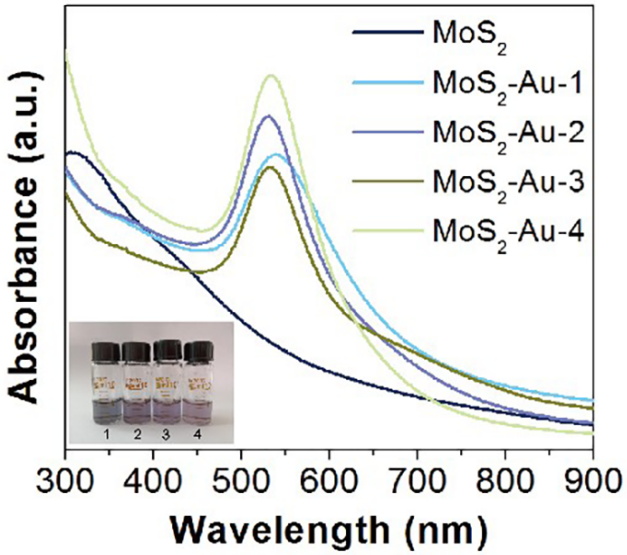

Figure S3. UV-vis-NIR absorbance spectra of MoS_2-Au NSs with different raw material ratios (Insert: Photographs of MoS_2-Au NSs solutions).

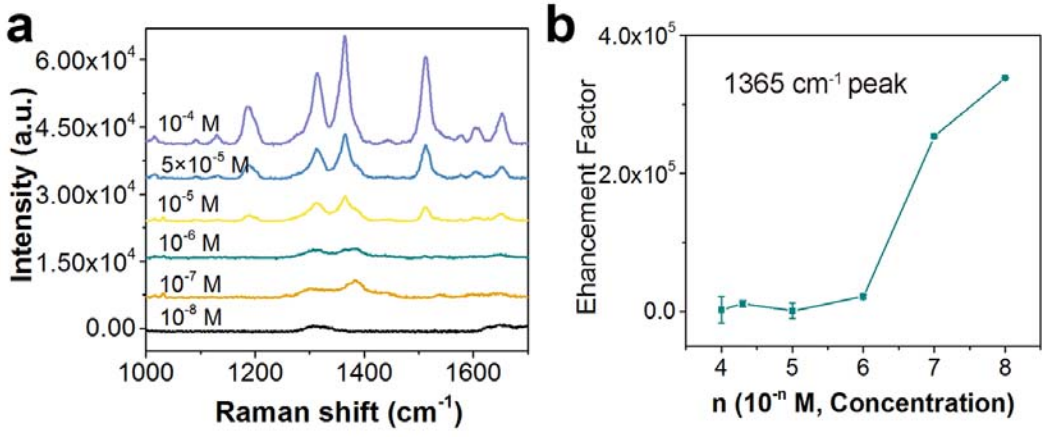

Figure S4. a) SERS spectra of different concentrations of R6G mixed with MoS_2-Au-2 (2.5 mM) under 785 nm laser excitation. b) Enhancement factors of R6G (1365 cm^{-1} peak) at various concentrations induced by MoS_2-Au NSs under 785 nm laser excitation.

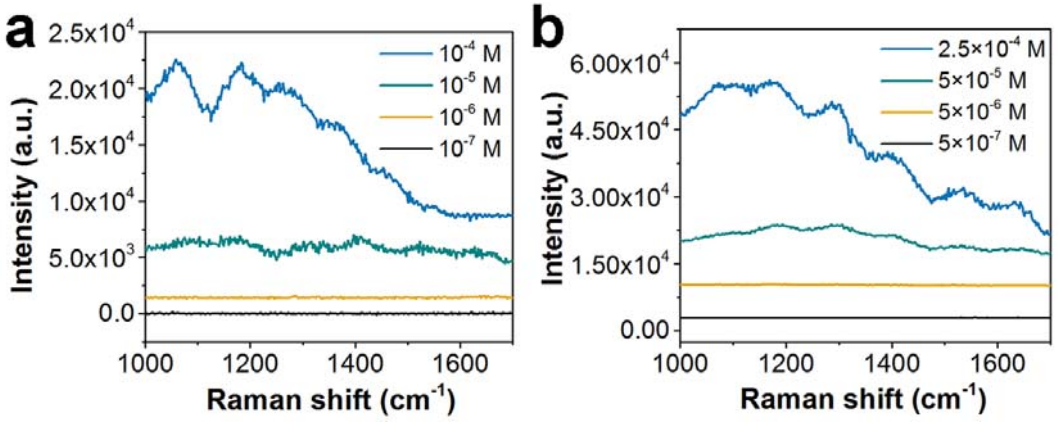

Figure S5. SERS spectra of 2.5 mM MoS_2-Au-2 with different concentrations of a) R6G and b) MG molecules under 514.5 nm laser irradiation.

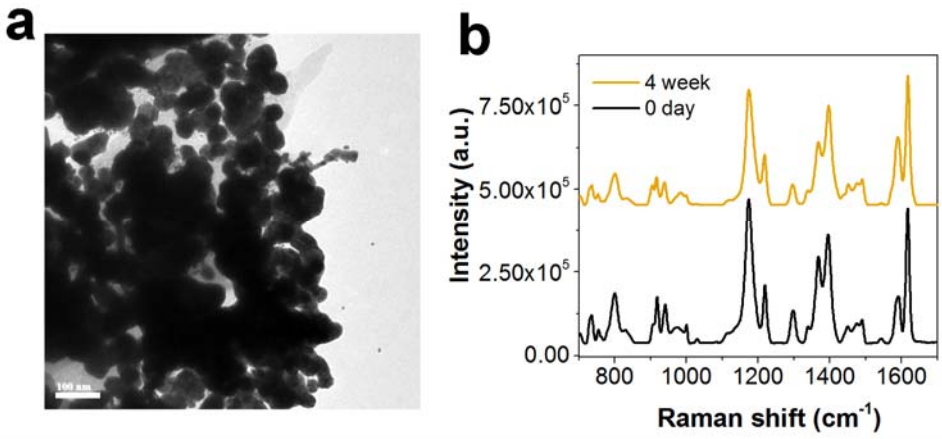

Figure S6. a) TEM image of MoS_2-Au NSs after storing at dark (4 °C) for one month. b) SERS spectra of MG induced by MoS_2-Au NSs during a four-week observation.

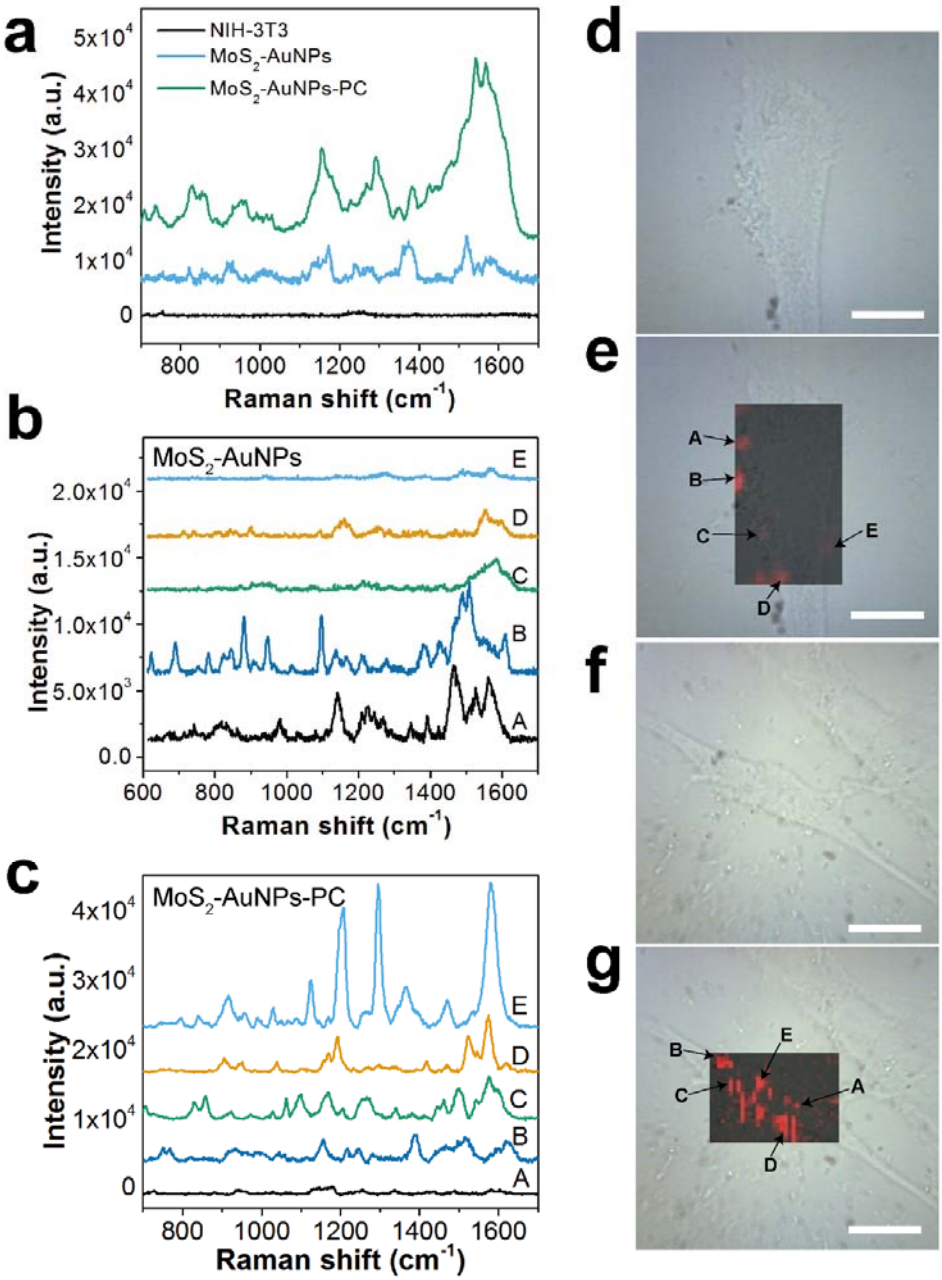

Figure S7. a) Mean SERS spectra of NIH-3T3 cells without or within incubated MoS_2-Au and MoS_2-Au-PC nanocomposites, respectively. b) Raman spectra of five points in e). c) Raman spectra of five points in g). d) Brightfield image and e) merged SERS image of NIH-3T3 cells incubated with MoS_2-Au NSs. f) Brightfield image and g) merged SERS image of NIH-3T3 cells incubated with MoS_2-Au-PC NSs. Scale bar: 20 μm.