

Supplementary Information

Fabrication of Flexible Silicon Nanowires by Self-assembled Metal Assisted Chemical Etching for Surface Enhanced Raman Spectroscopy

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S.1 SEM Images of SiNWs with different aspect ratios

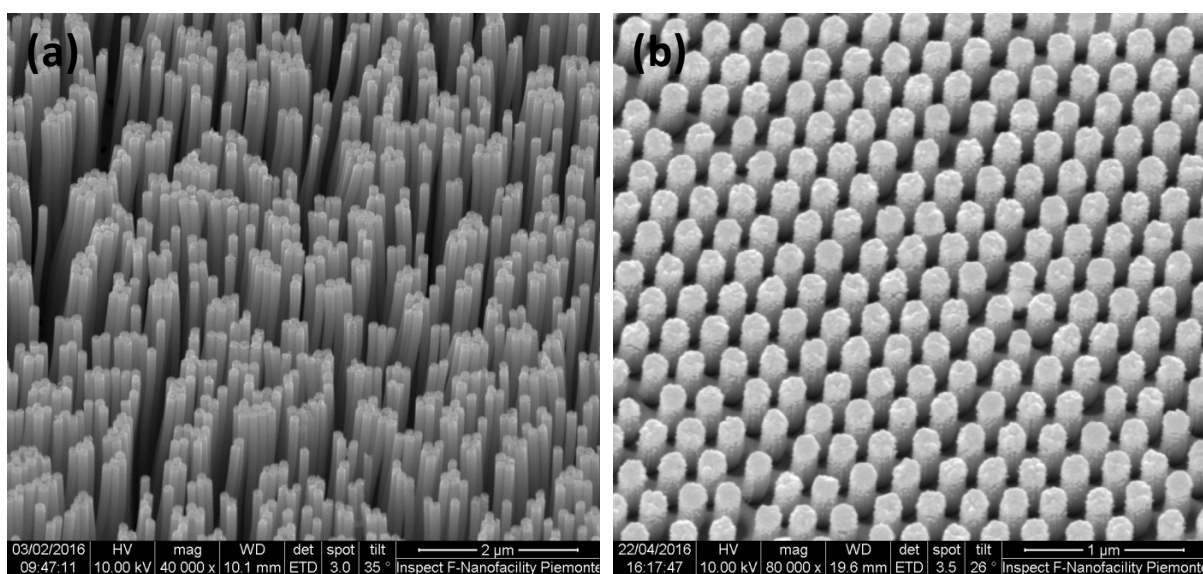


Fig. S1 (a) leaned SiNWs (aspect ratio $> 1:10$) obtained with an etching time of 130 s. (b) SiNWs (aspect ratio 1:5) coated with 80 nm of gold. These short wires were employed to demonstrate the non leaning effect occurs during water evaporation.

S.2 SEM images of leaned SiNWs with aspect ratio of 1:10

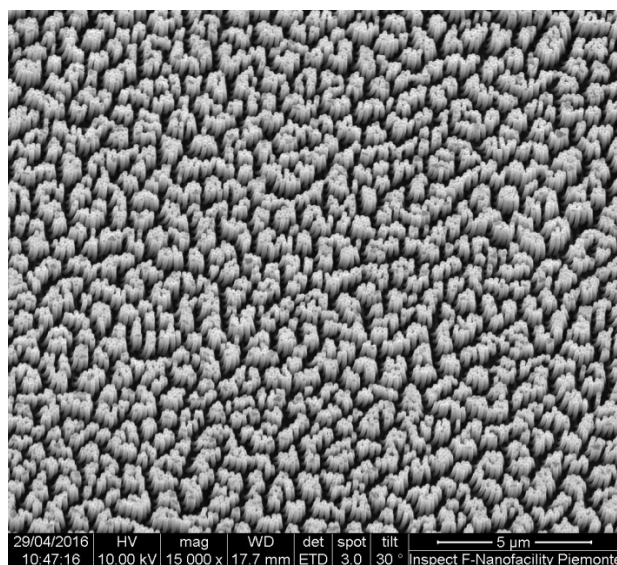


Fig S2 Leaned SiNWs obtained after water evaporation on large area with a potential high number of clustered Raman hot spots.

S3 Raman spectra recorded after substrates immersion in Mel solution

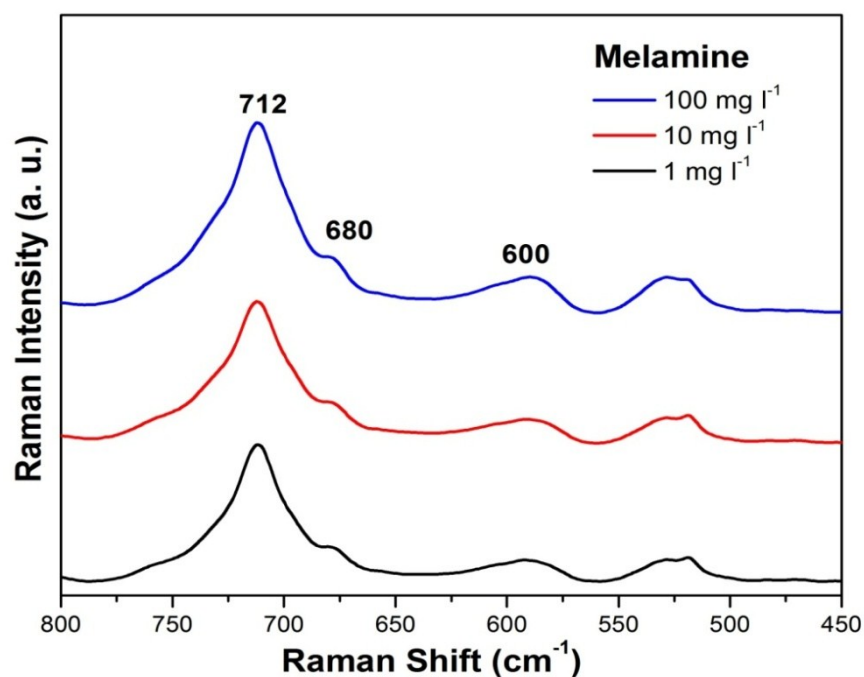


Fig. S3 Raman spectra recorded from post. Leaned nanowires substrates after their immersion for 20 minutes in Mel solutions at 100 mg l⁻¹, 10 mg l⁻¹ and 1 mg l⁻¹. SiNWs substrates were intensively washed with water to remove non-adsorbed molecules and let them dry in air to induce water evaporation as well as leaning of the wires before performing Raman measurements.

S.4 Enhancement Factor

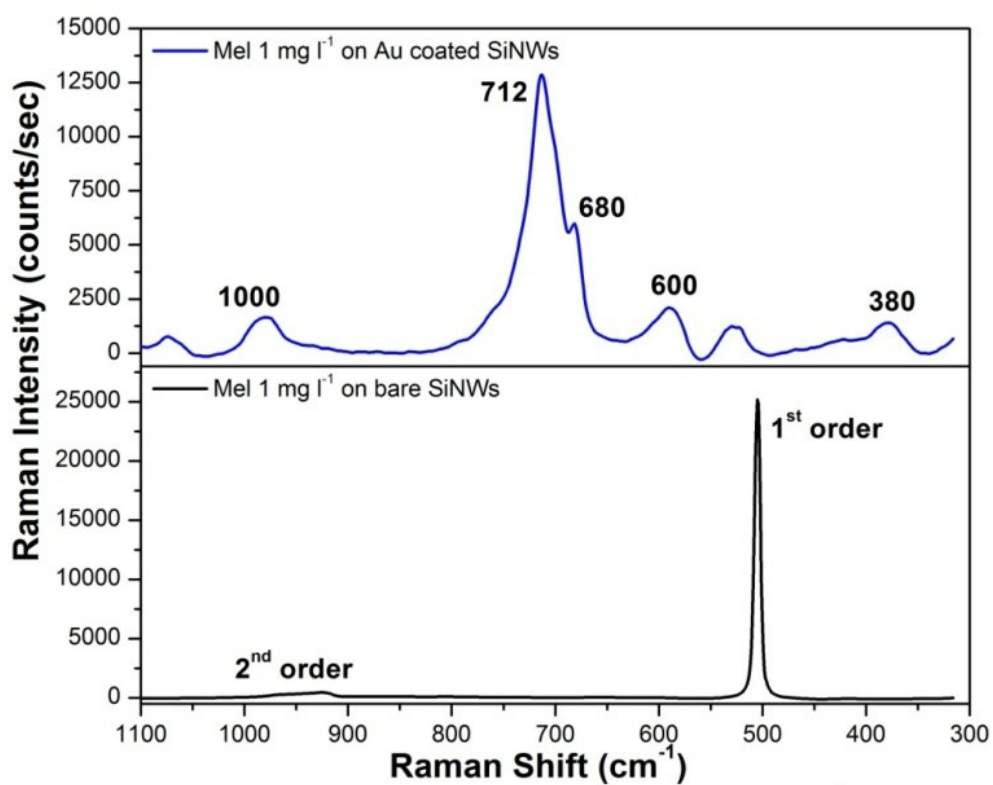


Fig. S4 Raman spectra recorded from Au coated SiNWs and bare SiNWs after the deposition of a 1 μ l droplet of a Mel solution at 1 mg l⁻¹. Raman measurements were performed in air after the evaporation of the solvent.