

*Supporting Information*

**Conductive and SERS-active colloidal Au film  
spontaneously formed at a liquid/liquid interface**

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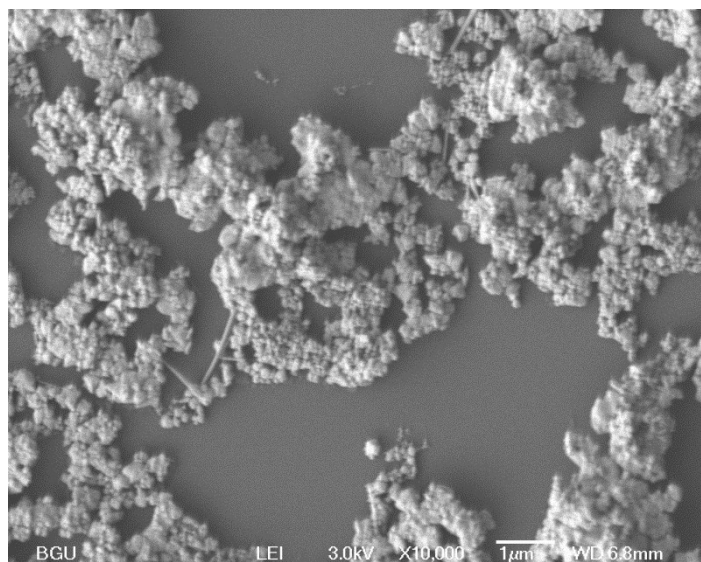


Figure S1. SEM image of gold film spontaneously assembled at the interface between hexane and water.

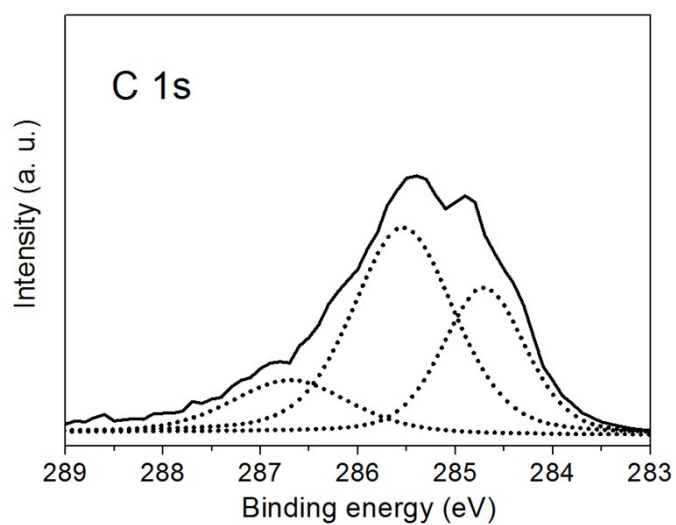


Figure S2. XPS spectrum of C 1s recorded after 24h incubation

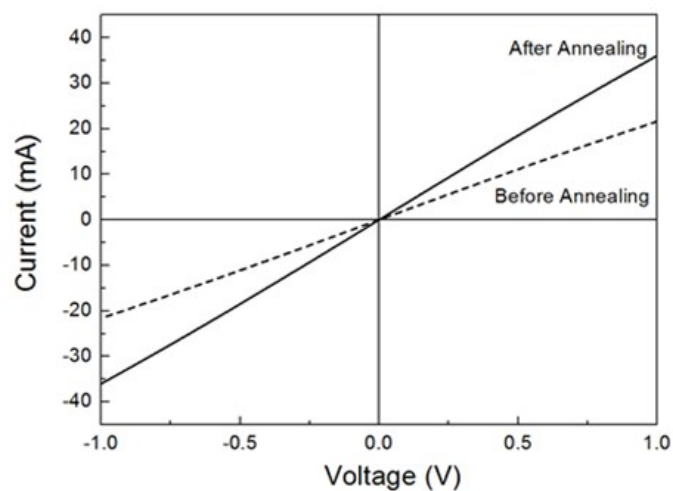


Figure S3. Electrical conductivity of the Au films after annealing. I–V curve recorded on 1 mm electrode spacing.

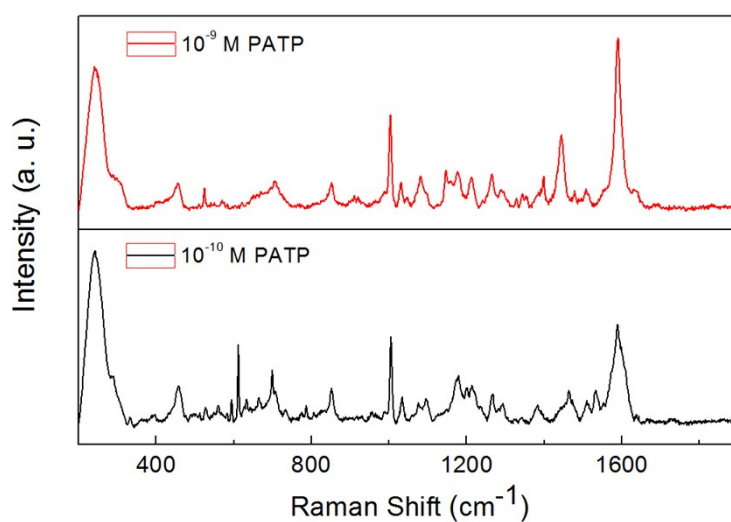


Figure S4. SERS of 10<sup>-9</sup> M and 10<sup>-10</sup> M solution of p-aminothiophenol placed over gold substrate and excited with a 633 nm radiation, revealing significant Raman signal enhancement in the order of 10<sup>8</sup> to 10<sup>9</sup> induced by the gold nanocrystal.