SUPPORTING INFORMATION

Generation and Detection of Single Metal Nanoparticles Using Scanning Electrochemical Microscopy Techniques

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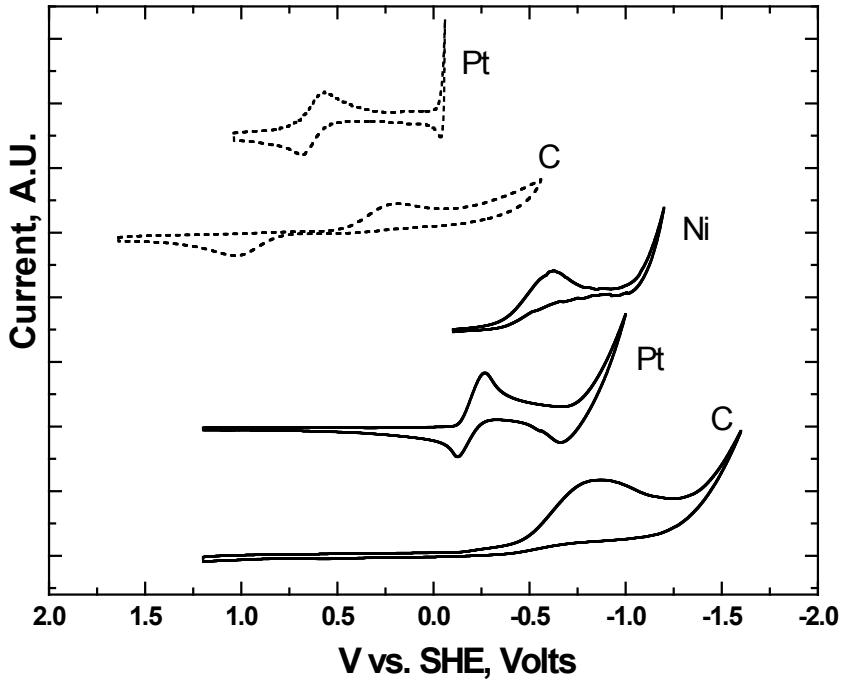

Figure S1: Cyclic voltammetry for macroscopic C rod and Pt disk electrodes in H^+/H_2 (solid lines) and Fe^{3+}/Fe^{2+} (dotted lines) mediators. The electrolytes used are 10 mM H_2SO_4 in 0.1 M K_2SO_4 and 5 mM $Fe_2(SO_4)_3$ in 1 M H_2SO_4, respectively. The limiting reduction waves are for H_2O and H_2 reduction, respectively.

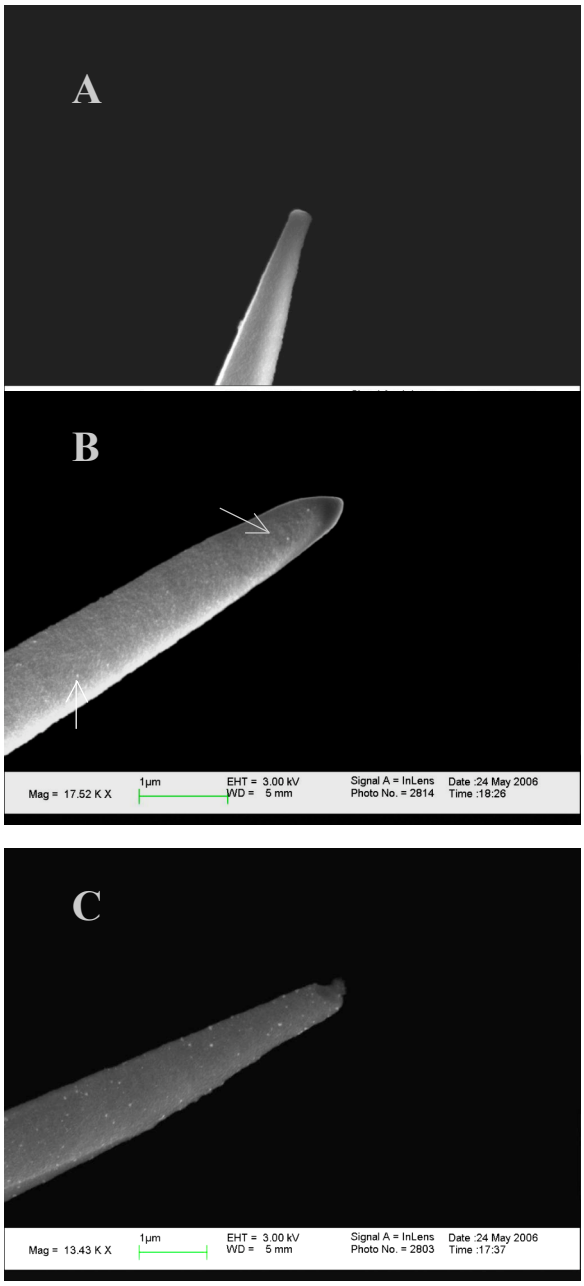

Figure S2: SEM images of CFE tips following immersion of 15 min in Pt colloidal solution. (A) Non modified CFE; (B) CFE after condensation reaction in the presence of 1 mM 4-aminopyridine and 200 mM aniline; (C) CFE after condensation reaction in the presence of 1 mM 4-aminopyridine without aniline.

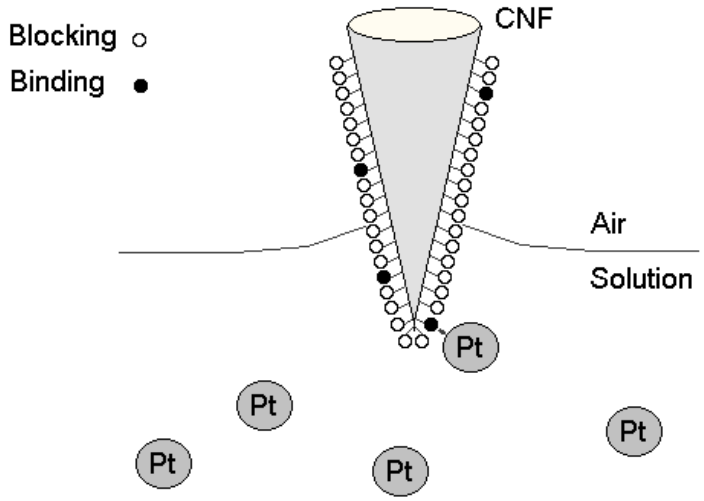

Figure S3: Schematic presentation of the nanoparticle collection technique showing a CFE tip modified with a surface layer containing a high ratio of nanoparticle blocking to binding molecules and positioned inside a colloidal Pt solution using SECM control.

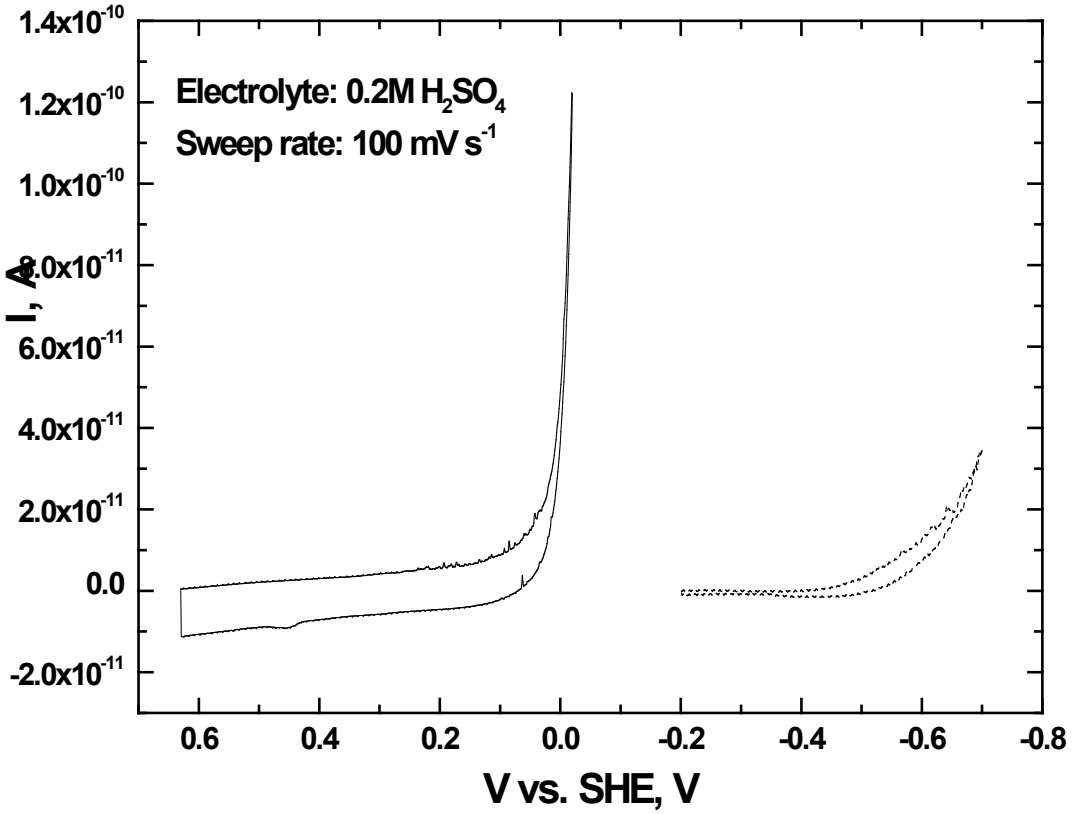

Figure S4: Cyclic voltammetry of a bare CFE tip (dashed line) and of a CFE tip containing a chemisorbed Pt MNP (solid line). The modified tip was treated with 1 mM 4-aminopyridine and 200 mM aniline and immersed at 350 nm below the surface level of a Pt colloidal suspension. For both tips voltammetry was carried out in 0.2 M H_2SO_4 and the sweep direction was from positive to negative at a rate of 100 mV s^{-1}.