

Supporting Information

Voltage-Gated Nanoparticle Transport and Collisions in Attoliter-Volume Nanopore Electrode Arrays

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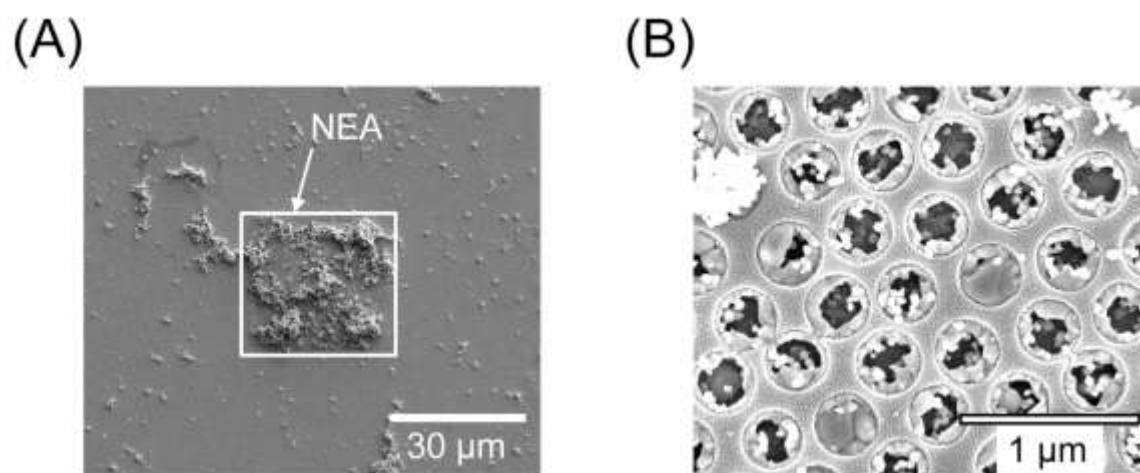


Figure S1. SEM images of an NEA after a gated AgNP experiment. The white frame in (A) indicates

the area of the NEA, and the magnified image (B) indicates the accumulation of AgNPs and electrodeposition of silver inside the nanopores.

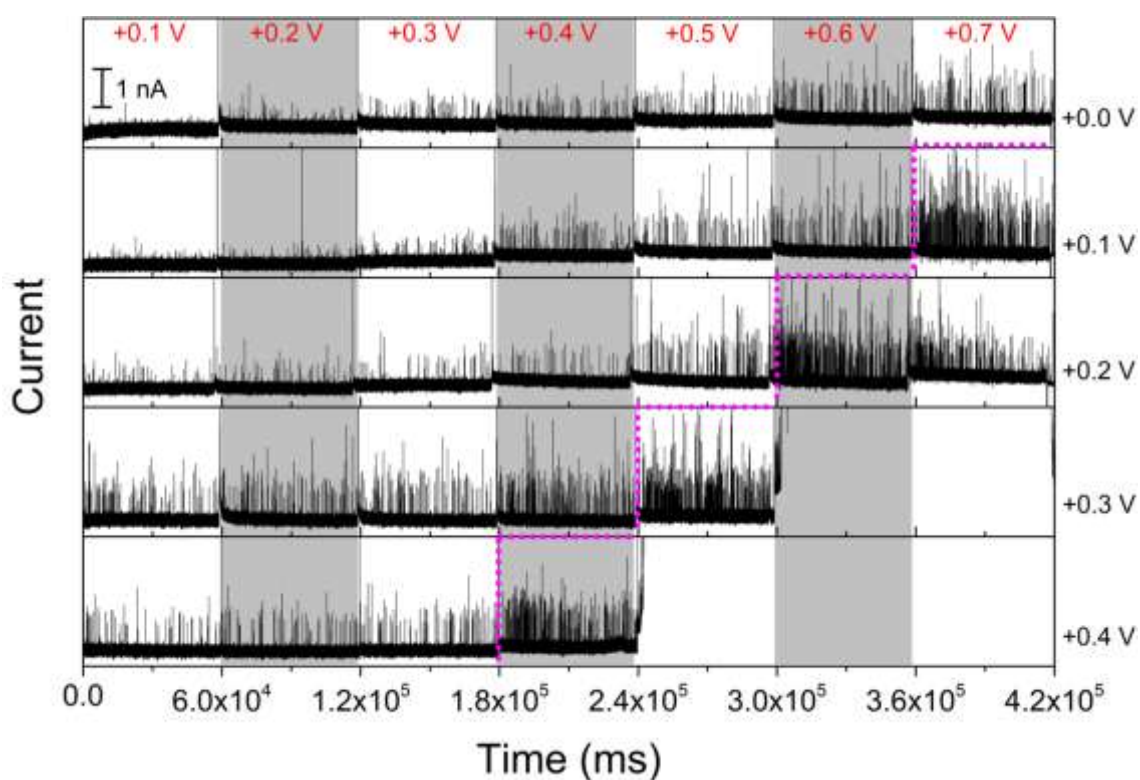


Figure S2. Amperometric traces obtained at the bottom electrode by applying different voltages, ranging from +0.1 V to +0.7 V vs. Pt QRE to the top electrode and at the same time fixing the bottom electrode of NEAs at (A) 0.0 V, (B) +0.1 V, (C) +0.2 V, (D) +0.3 V and (E) +0.4 V. All experiments were performed in Tris buffer (50 mM, pH 7.4) containing 80 pM AgNPs with average diameter \sim 50 nm.

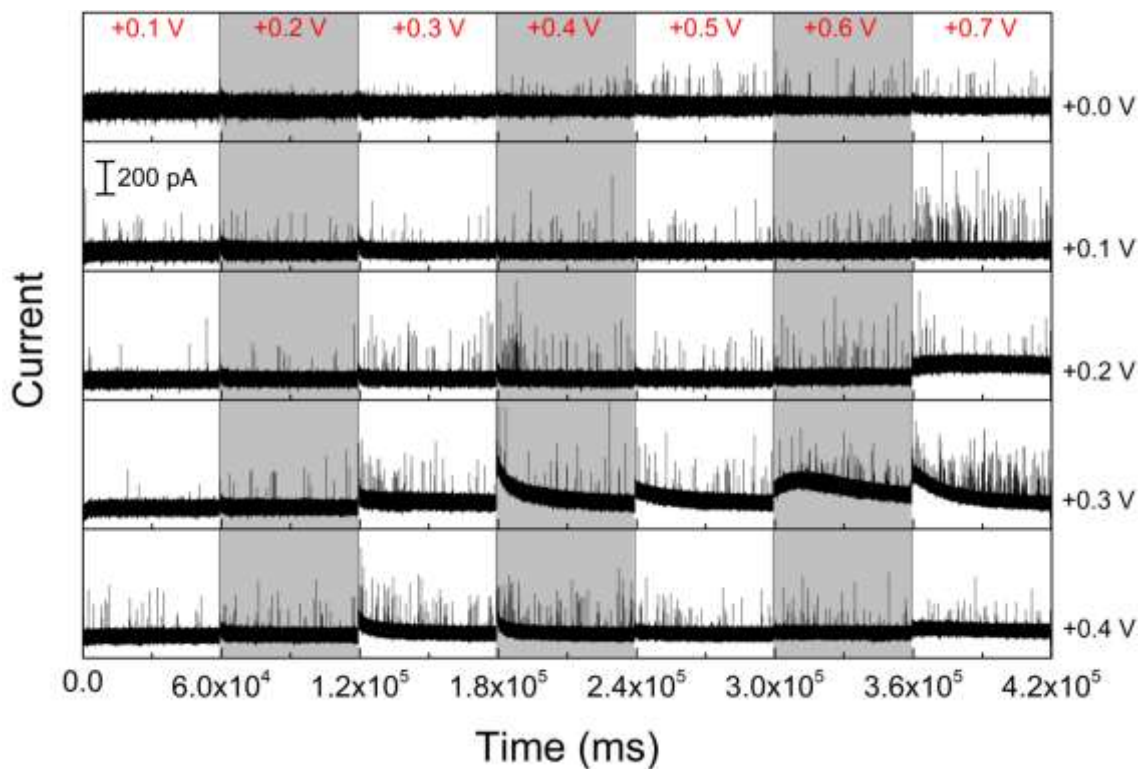


Figure S3. Amperometric traces obtained at the bottom electrode by applying different voltages, ranging from +0.1 V to +0.7 V vs. Pt QRE to the top electrode and at the same time fixing the bottom electrode of NEAs at (A) 0.0 V, (B) +0.1 V, (C) +0.2 V, (D) +0.3 V and (E) +0.4 V. All experiments were performed in Tris buffer (50 mM, pH 7.4) containing 80 pM AgNPs with average diameter ~ 30 nm.