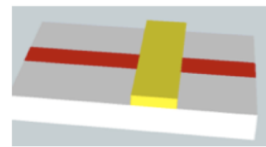
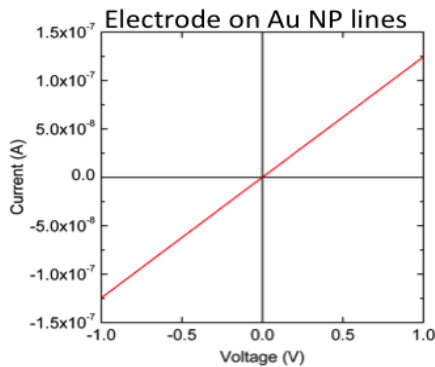
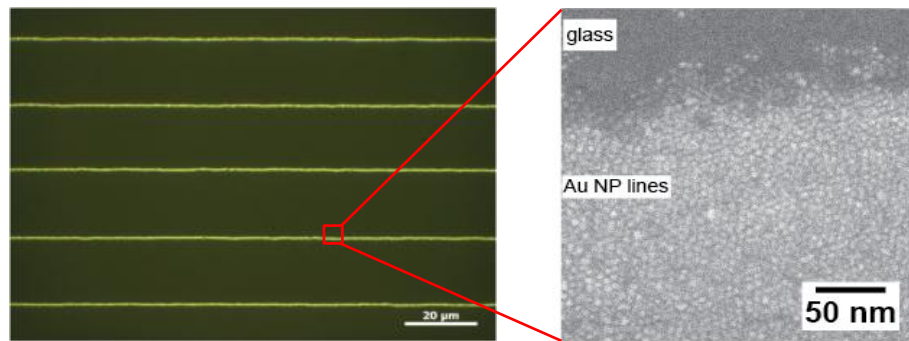
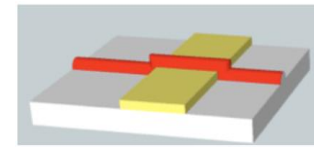
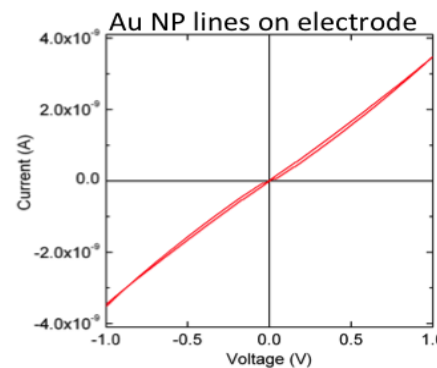


Towards High-Rate Nano-Manufacturing of Gold Nanoparticle Lines

We prepared lines from Au NPs, using advances in flow-coating methodology, and measured their conductivity on inter-digitated electrodes. These line arrays exhibited an ohmic, linear current-voltage response similar to conductive material. The conductivity of the Au NP lines, measured from top contact configuration (electrode on Au NP lines) is 4 orders of magnitude higher than reported values of Langmuir monolayers of Au NPs. The performance and reproducibility of these lines were confirmed by control experiments and fabrication-characterization of numerous Au NP line arrays. We also found that these lines can be deposited on non-uniform substrates (Au NP lines on electrode), resulting in shape-conforming conductive paths.



$$\sigma = 8.7 \text{ mS/cm}$$



$$\sigma = 0.3 \text{ mS/cm}$$

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