

Supporting information

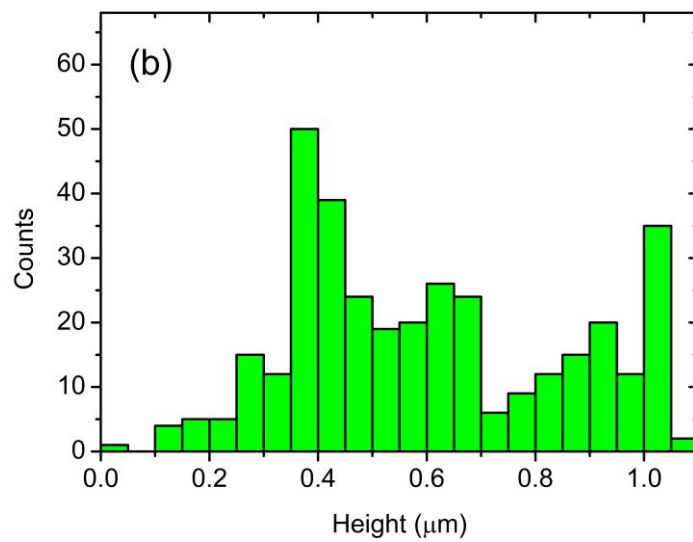
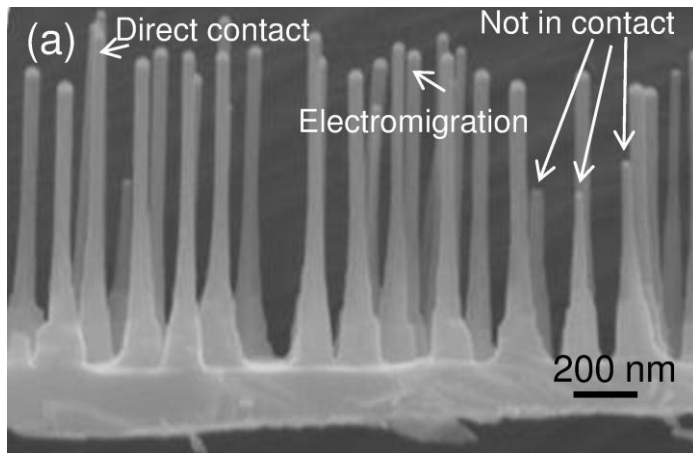


Figure S1 (a) SEM image of the InAs NWs viewed at right angle. (b) Height distribution histogram of the sample.

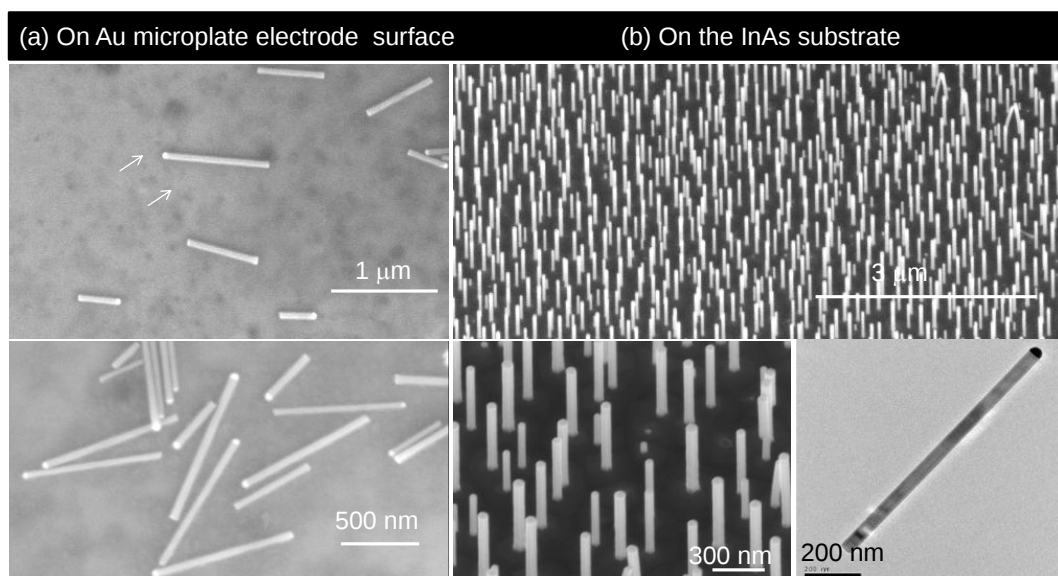


Figure S2. (a) SEM images of the Au microplate electrode after dismantling showing some of the NWs which came off due to mechanical pulling of the electrode surface. Importantly the NW and the catalyst particle are intact without any deformation. Arrows indicate few of the dark spots on Au microplate which correspond to Au stalactites as were seen in AFM images (in Figure 3). (b) SEM images of the NWs on the InAs substrate after electrical analysis, TEM image is also shown which shows clearly the catalyst particle at the tip.

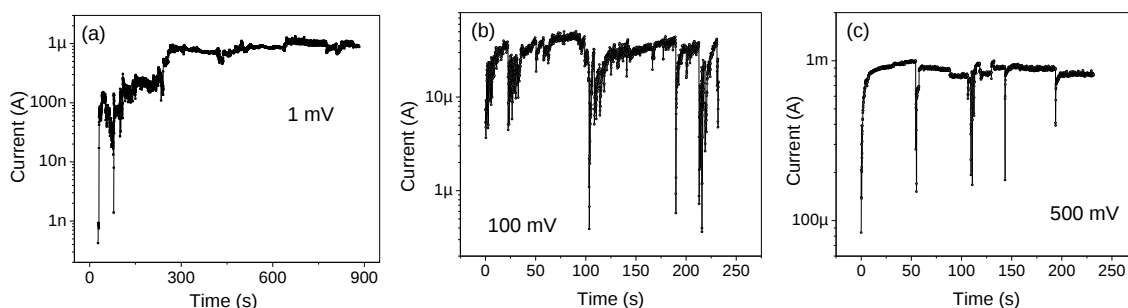


Figure S3. Current-time characteristics of the NW sandwich device at various applied constant bias, (a) 1 mV; (b) 100 mV and (c) 500 mV. At higher voltages, the current was higher indicating that more number of NWs have come into contact, but the contacts are not stable enough. There were frequent dips in the current indicating rupture of the contacts and/or NW tip melting due to joule heating.