Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Conformal Graphene Coating on High-Aspect Ratio Si Nanorod Arrays by Vapor Assisted Method for Field Emission emitter application

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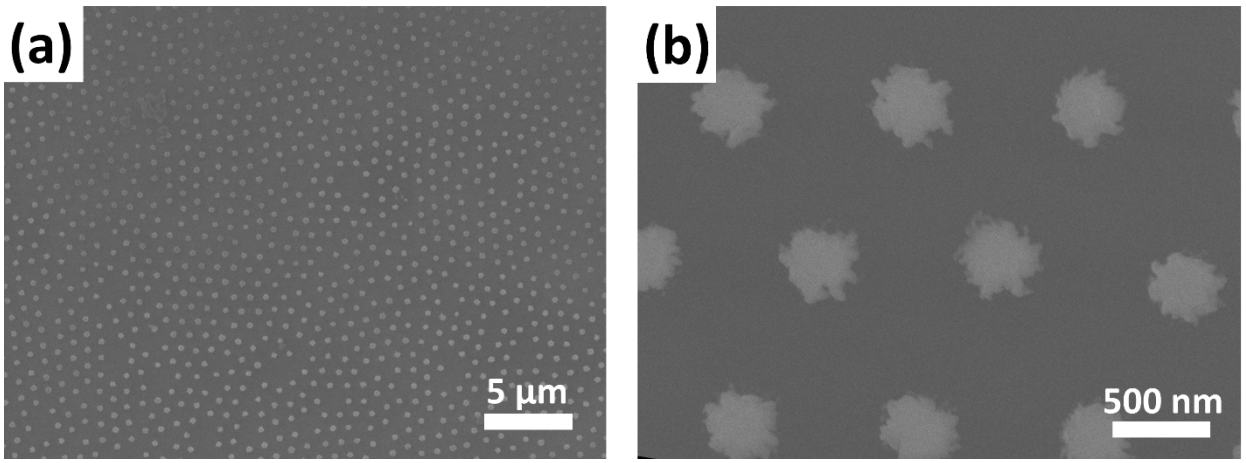

Figure S1. Top-view SEM images of Si NRAs as fabricated

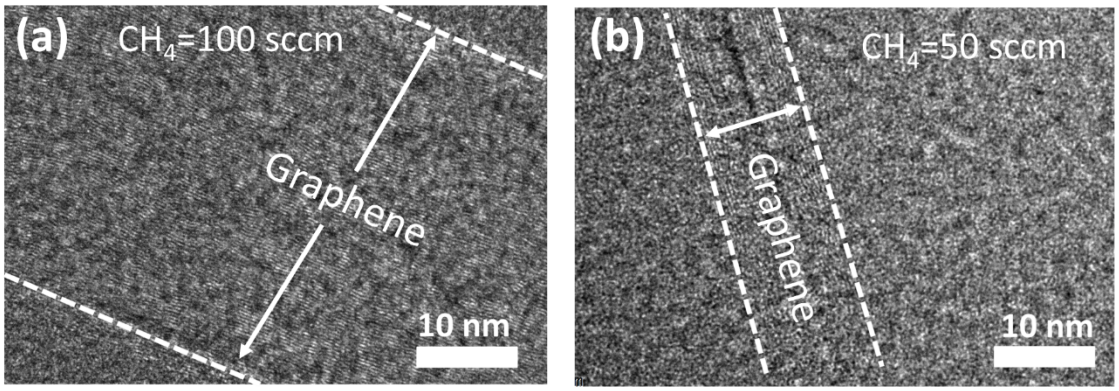

Figure S2. HR TEM images of graphene film grown at (a) CH_4=100 sccm and (b) CH_4=50 sccm

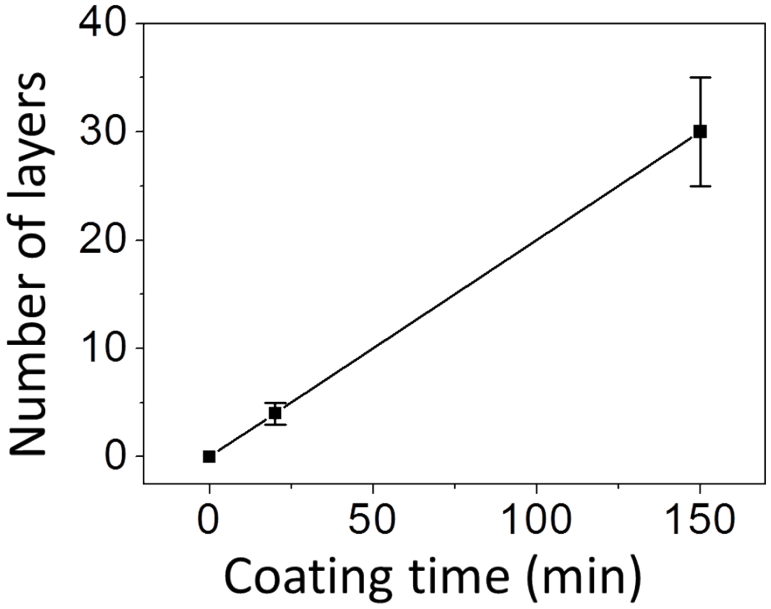

Figure S3. Number of graphene coated layers vs. growing time at controlled deposition rate

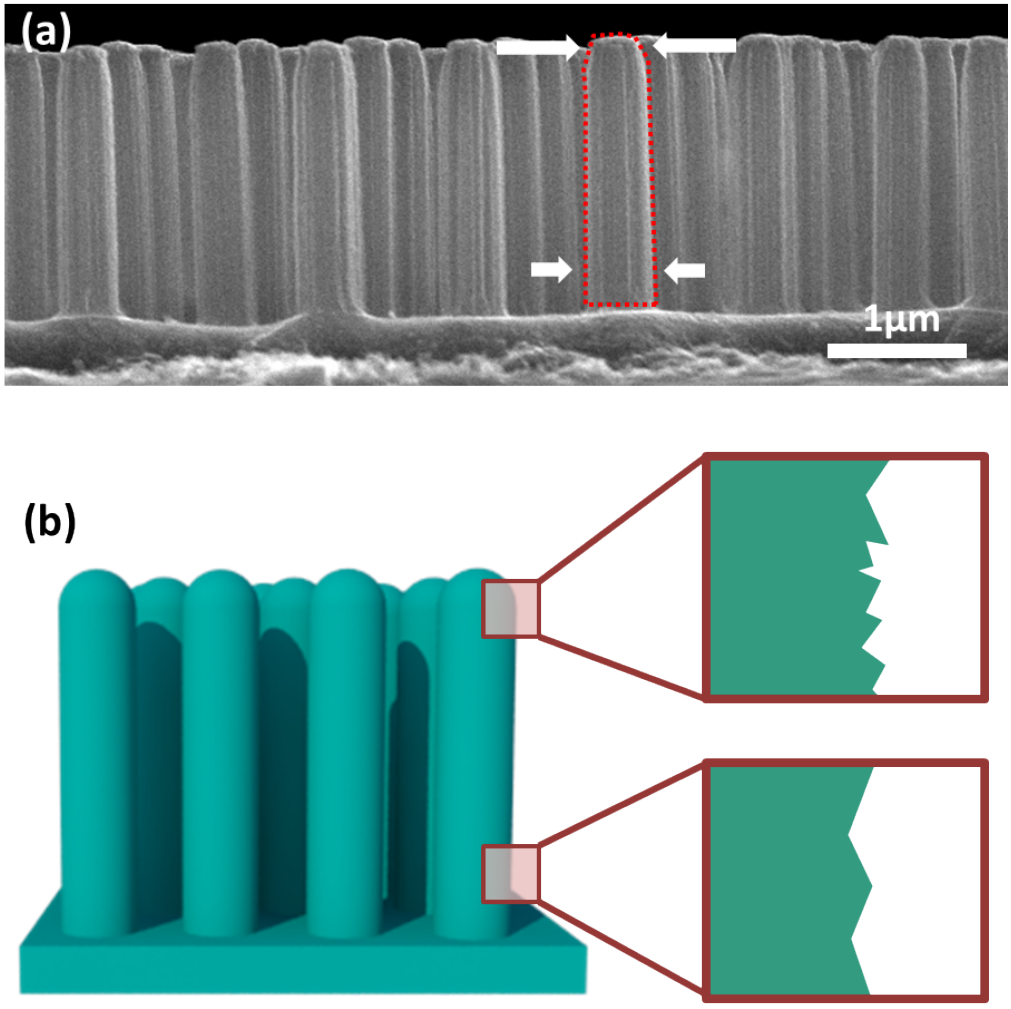

Figure S4. In (a) the SEM image of Si NRAs (a) and in (b) a schematic diagram of the surface roughness of the NRAs after the metal-assisted etching process.

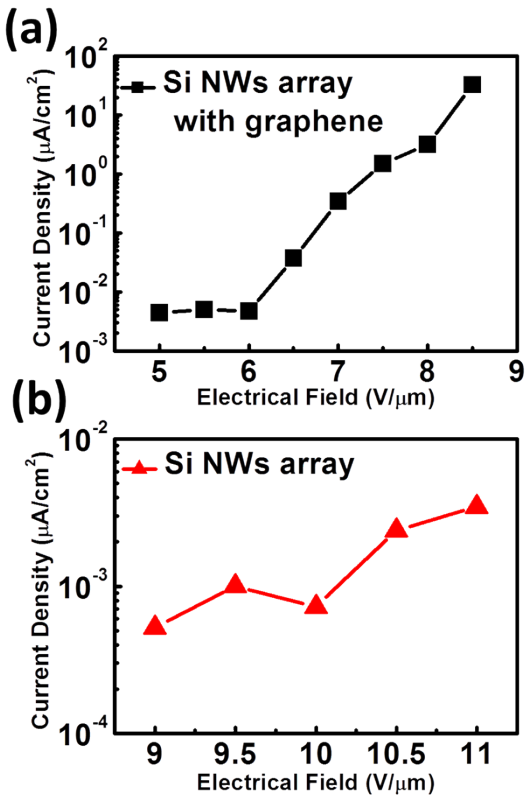

Figure S5. J-E measurement of Si NRAs (a) coated with 3-5 graphene layers and (b) uncoated

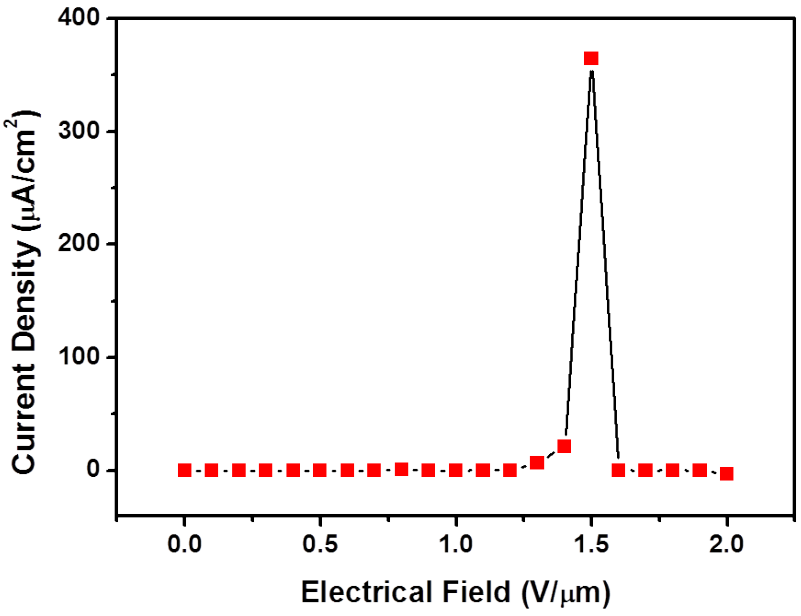

Figure S6. J-E measurement thicker graphene coated on Si NRAs for 150 min.