

Electronic Supplementary Information

Highly Efficient Field Emission from Large-Scale and Uniform Monolayer Graphene Sheet Supported on Patterned ZnO Nanorod Arrays

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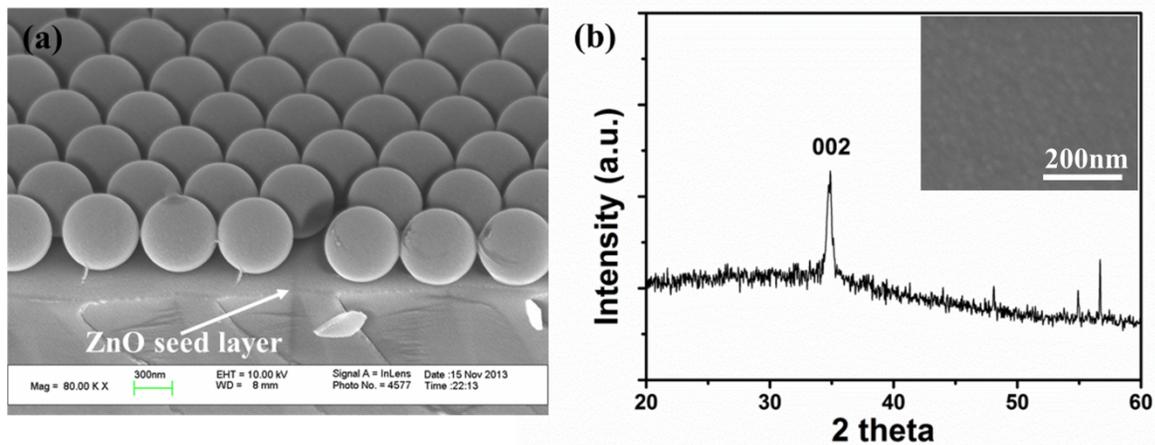


Fig. S1 (a) The SEM image shows the ZnO seed layer between the silicon substrate and PS spheres MCC. (b) The XRD image of ZnO seed layer pre-deposited on silicon substrate with (002) preferential orientation. The inset is the SEM image of ZnO seed layer.

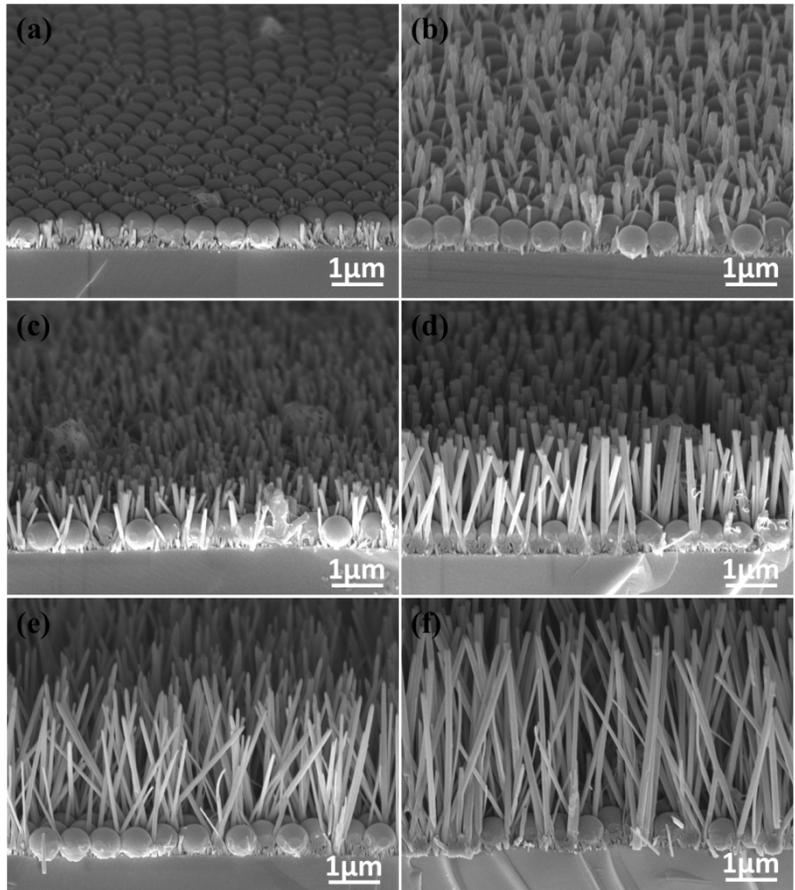


Fig. S2 The SEM images of 600 nm PS nanospheres patterned ZnO nanorods with different growth time. (a) 2h, (b) 2.5h, (c) 3h, (d) 4h, (e) 6h, (f) 10h. The scale bar is 1 μm.

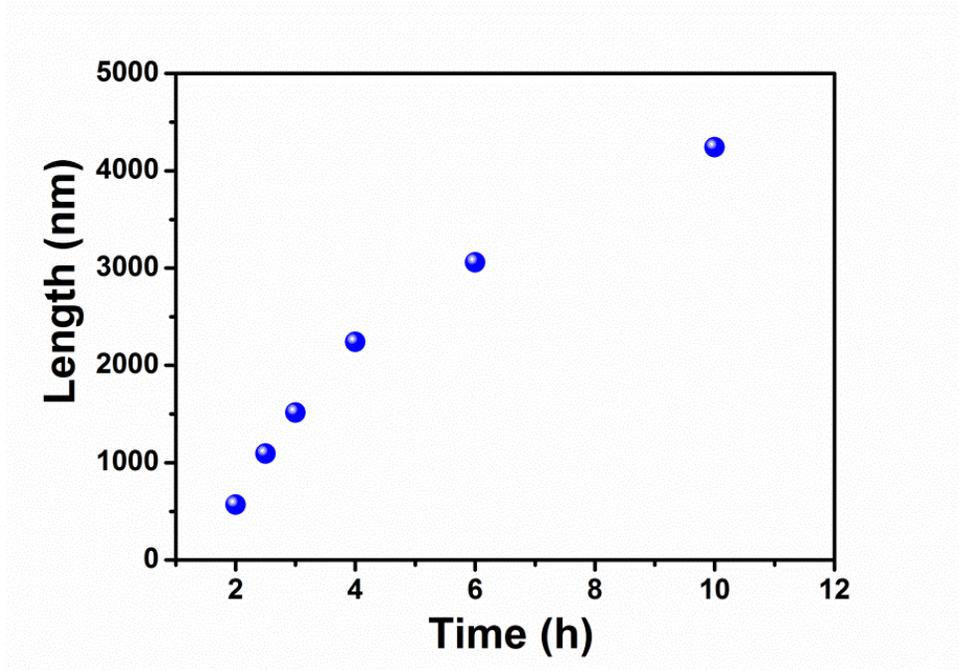


Fig. S3 The dependence of the length of ZnO nanorods on the growth time.

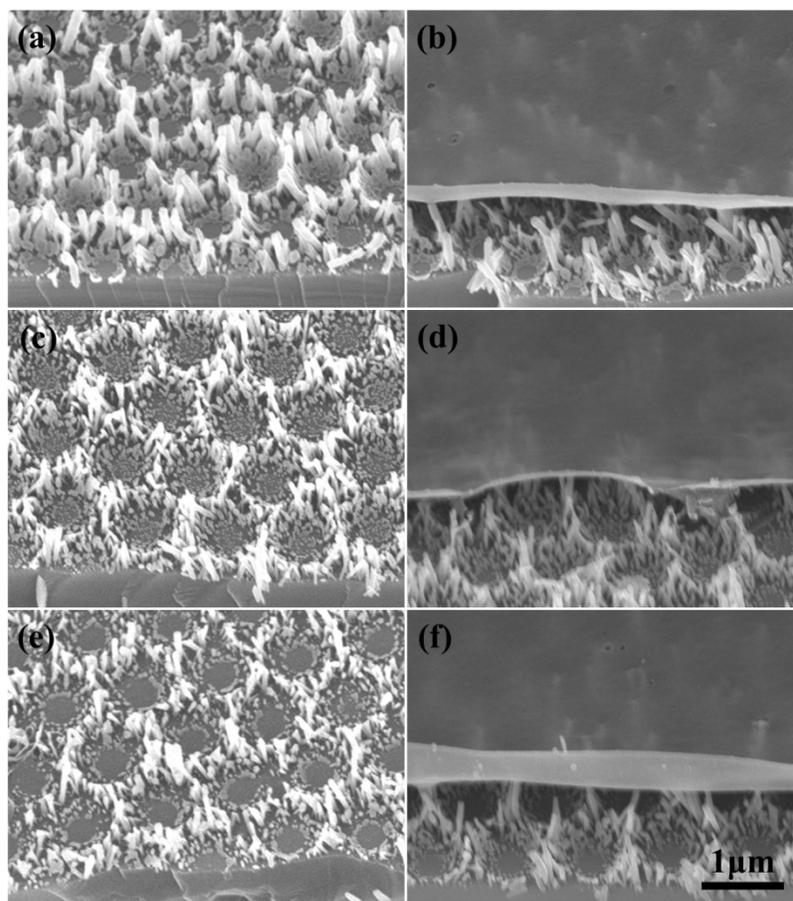


Fig. S4 Typical tilted view SEM images of the patterned ZnO nanorod arrays before (left panel) and after (right panel) deposition of PMMA/graphene film. The size of PS sphere used is 810 nm in (a) and (b), 886 nm in (c) and (d), and 900 nm in (e) and (f), respectively.

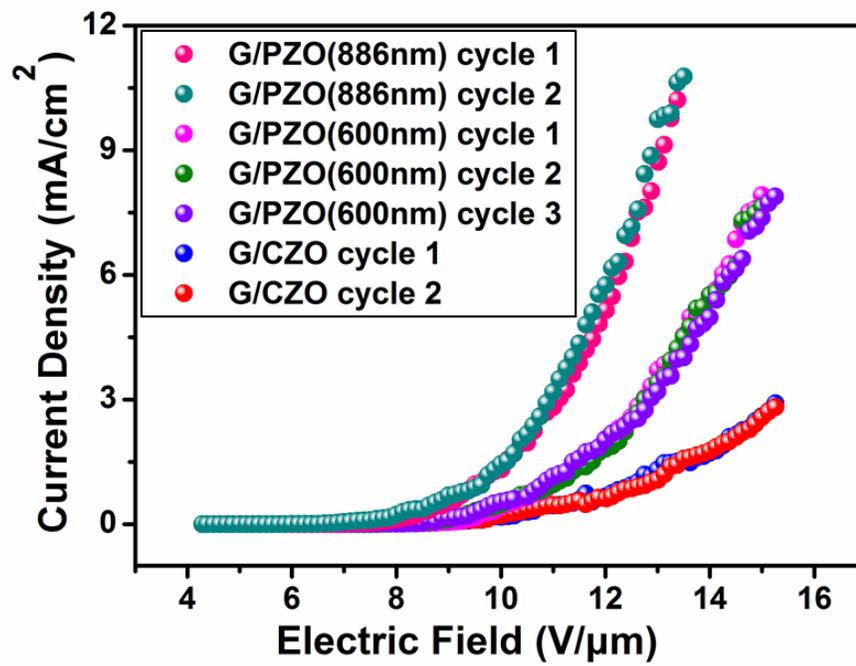


Fig. S5 The stability of field emission of G/PZO with 600nm and 886nm PS MCC tailored, respectively.