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Supplementary Information

Arrays of vertically aligned tubular-structured graphene for flexible field emitters

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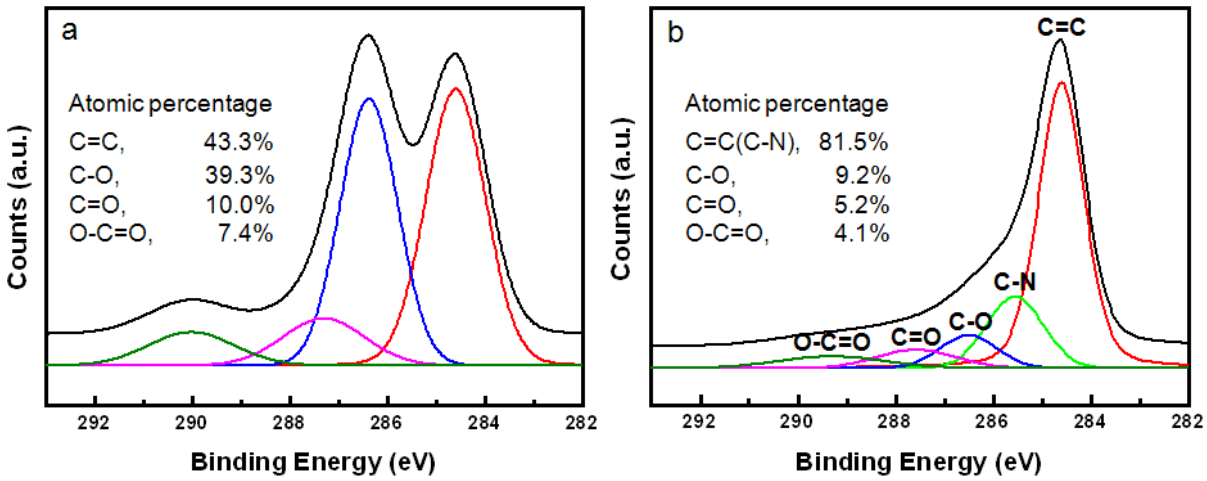

Fig. S1 XPS data of a) GO and b) RGO nanosheets used in this study. The atomic percentage of oxygen functional groups was significantly reduced by the reduction process, indicating the high quality of the RGO nanosheets.

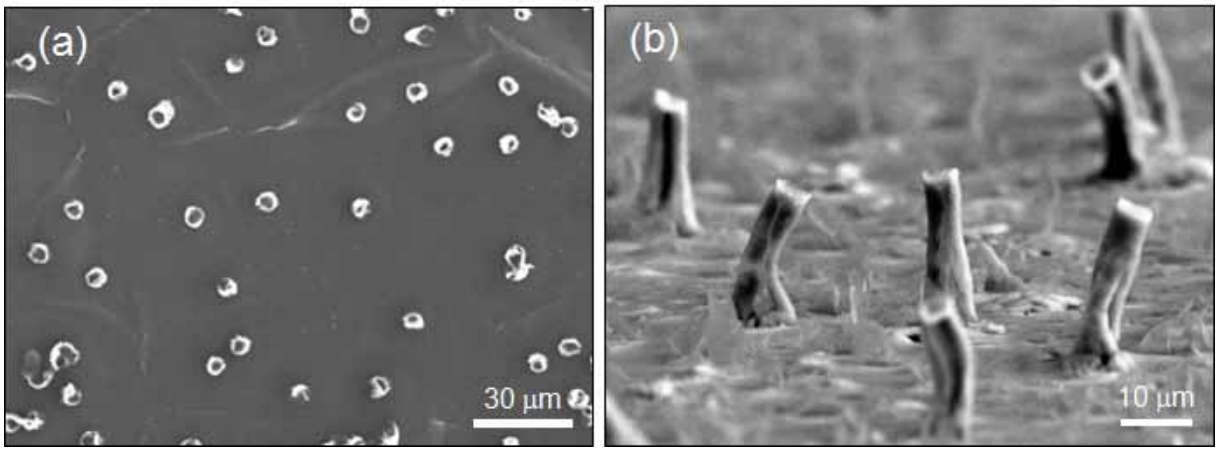

Fig. S2 (a) Low and (b) high magnification SEM images of tubular structured RGO arrays fabricated using a PC membrane with 5 μm pores.

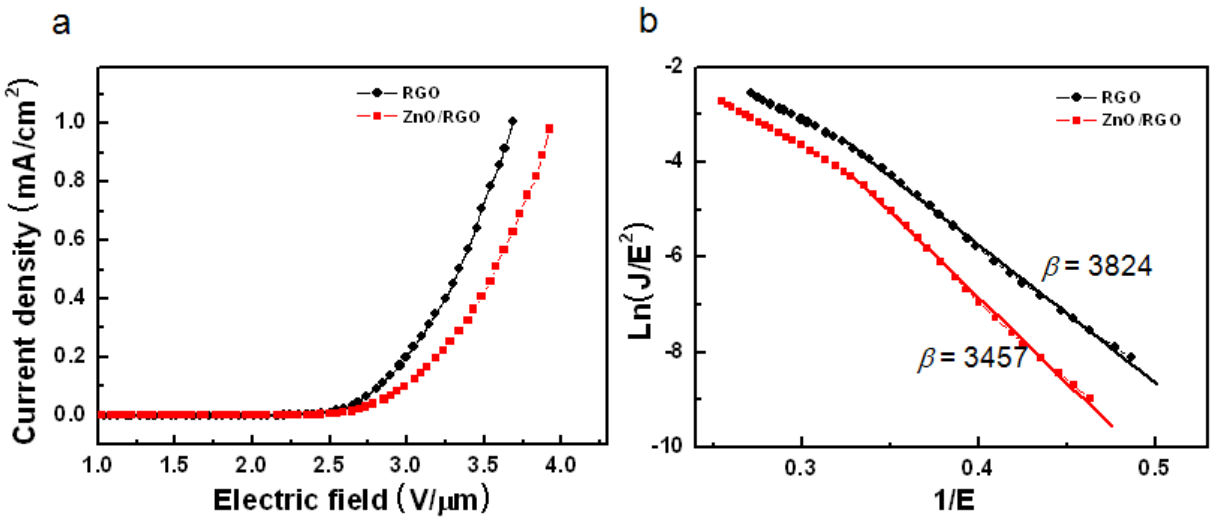

Fig. S3 a) J-E characteristics and b) the corresponding F-N plots of the RGO and ZnO-coated RGO array emitters.

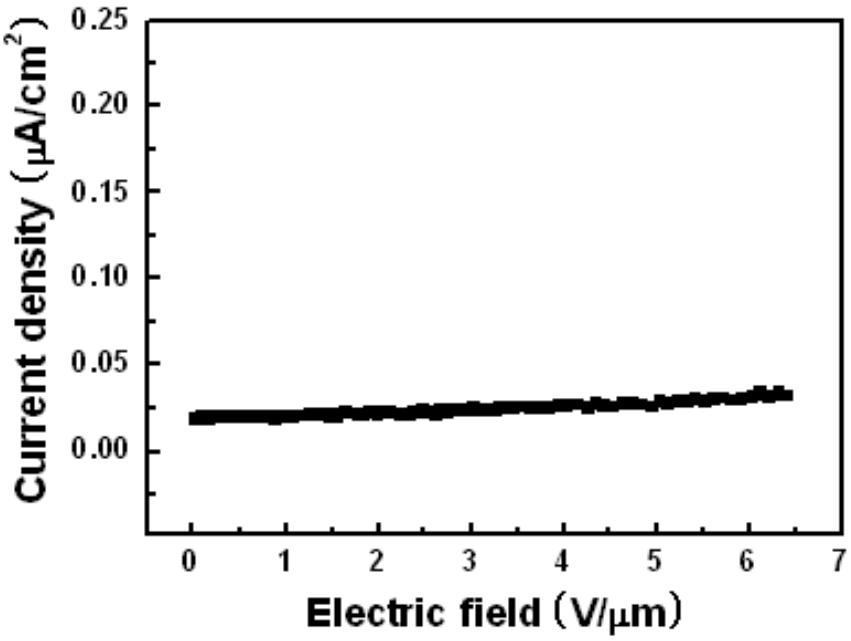

Fig. S4 J-E characteristics of the SWNT-coated PET substrate. Electron field emission behavior was not observed even at a high electric field of 6.5 V/μm.