

Supplementary Data

Nanoelectronic Biosensors Based on CVD Grown Graphene

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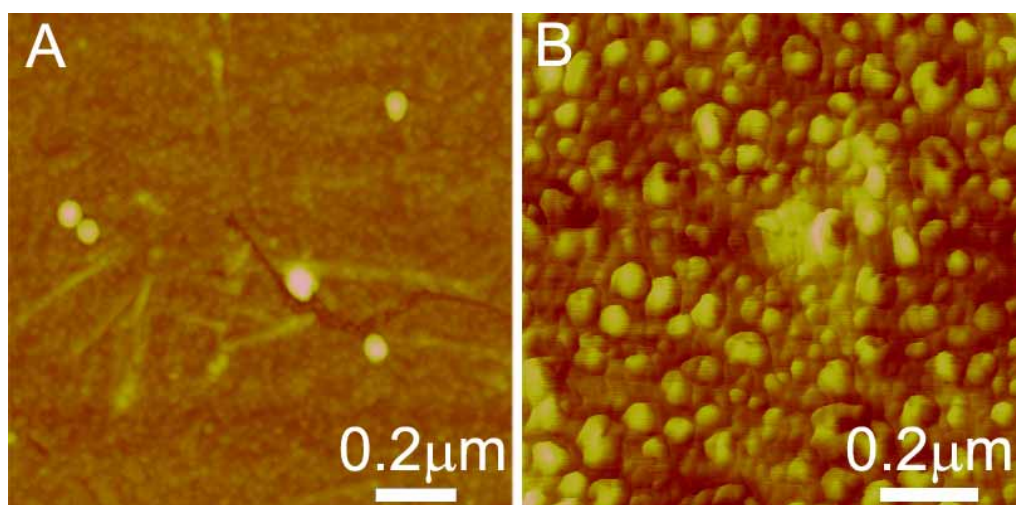


Figure S1. AFM images of graphene film before (A) and after (B) functionalization with glucose oxidase.

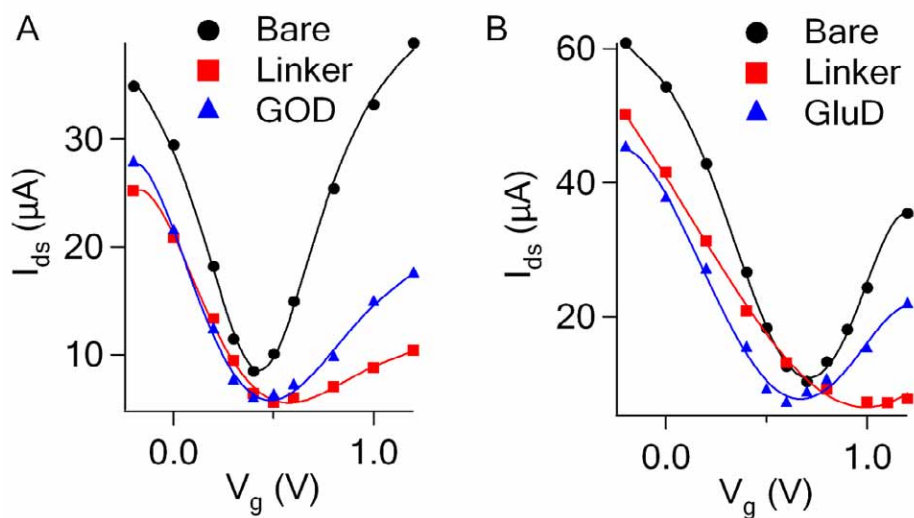


Figure S2. (A) Transfer curves of bare graphene FET, graphene FET functionalized with linker molecule, graphene FET functionalized with GOD. (B) A. transfer curve of bare graphene FET, graphene FET functionalized with linker molecule, graphene FET functionalized with GluD.

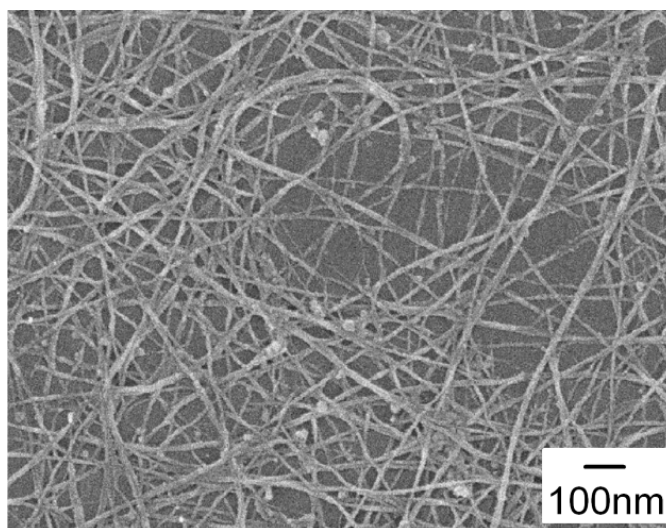


Figure S3. SEM image of SWNT-network prepared using phase-separation facilitated self-assembly of carboxylated-SWNTs (Carbon Solution) as previously reported.¹

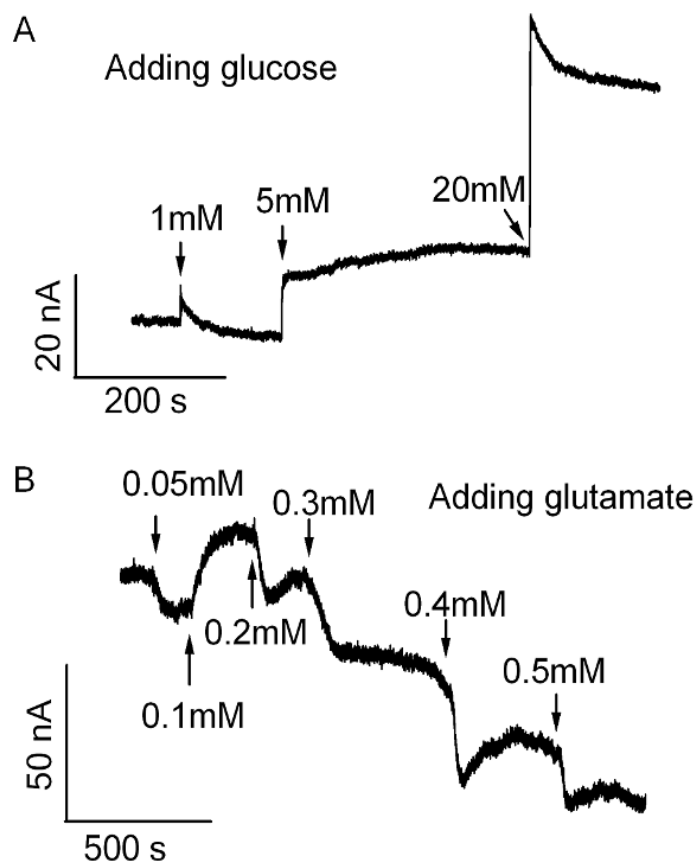


Figure S4. Current response of enzyme-functionalized SWNT-network FET with addition of glucose (A) and glutamate (B). Similar to graphene FET, SWNT-network FET also responded to addition of glucose with current increase, but with lower sensitivity. Addition of glutamate caused inconsistent responses of SWNT-network (in all samples) for unknown reasons. The observation may be partly attributable to the ineffectiveness in enzyme functionalization and low sensitivity of the device.

1. Y. X. Huang, H. G. Sudibya, D. L. Fu, R. H. Xue, X. C. Dong, L. J. Li, and P. Chen, *Biosensors & Bioelectronics*, 2009, **24**, 2716.