

Supporting Information

Graphene as Spacer to Layer-by-Layer Assemble Electrochemically Functional Nanostructures for Molecular Bioelectronic Devices

Xiang Wang,^a Jingfang Wang,^b Hanjun Cheng,^a Ping Yu,^a Jianshan Ye,^b and Lanqun Mao^{*,a}

^a *Beijing National Laboratory for Molecular Sciences, Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, the Chinese Academy of Sciences, Beijing 100190, China.*

^b *College of Chemistry and Chemical Engineering, South China University of Technology, Wushan, Guangzhou 510640, China.*

Contents

Figure S1 - CVs for the oxidation of NADH at different (graphene/MG)_n-modified GC electrodes

Figure S2 - UV-vis spectra of MG, graphene and (graphene/MG)₁

Figure S3 - Stability of the (graphene/MG)₅ -modified electrode

Figure S1 – L. Mao *et al.*

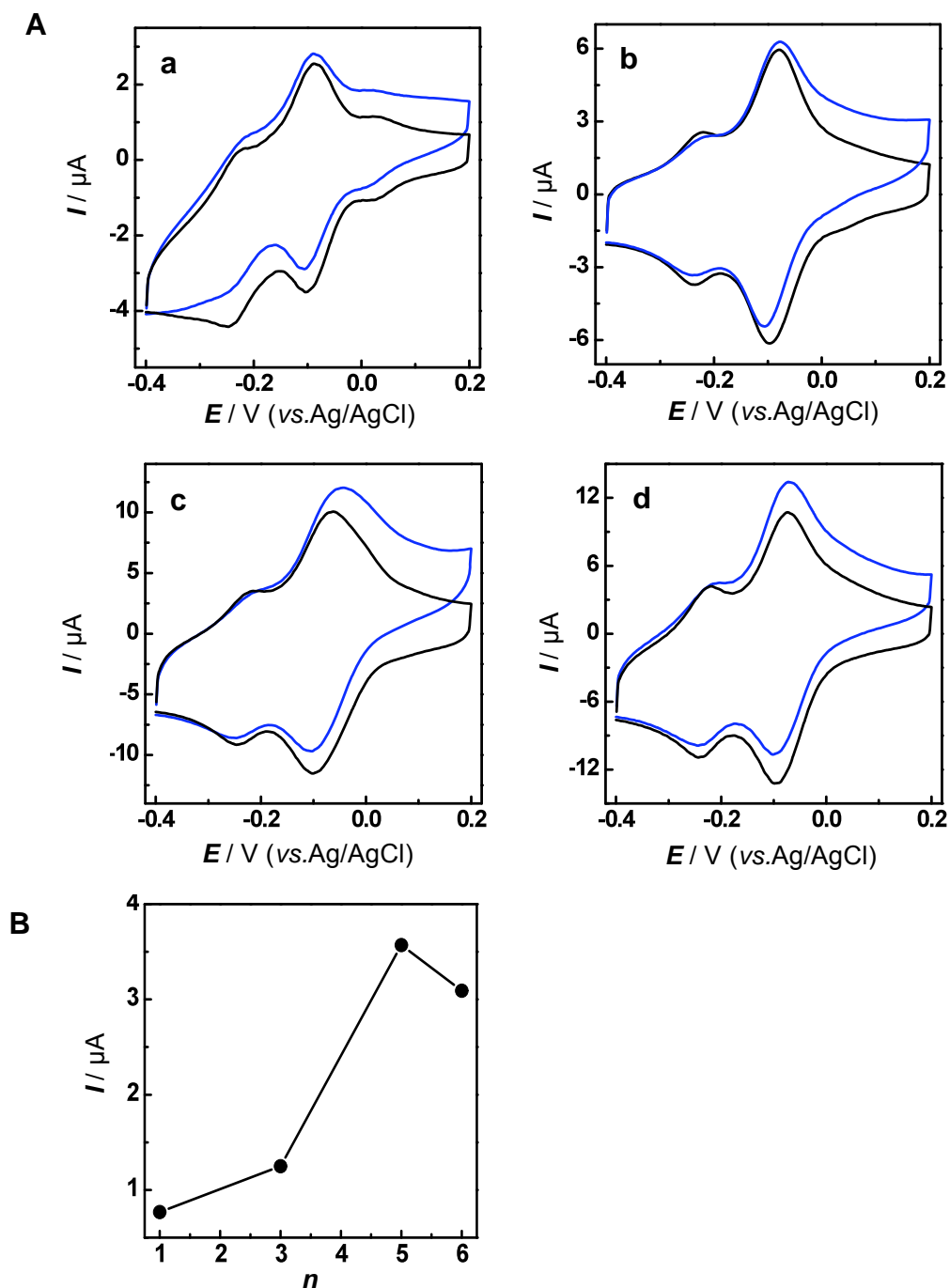


Figure S1. (A) Typical CVs obtained at the (graphene/MG) $_n$ -modified GC electrodes in 0.10 M phosphate buffer (pH 6.0) in the absence (black curve) and presence (blue curve) of 2 mM NADH. (a) $n = 1$, (b) $n = 3$, (c) $n = 5$ and (d) $n = 6$. Scan rate, 10 mV s $^{-1}$. (B) Plot of the electrocatalytic currents for NADH oxidation measured at 0 V (vs. Ag/AgCl) versus the number of (graphene/MG) bilayers.

Figure S2 – L. Mao *et al.*

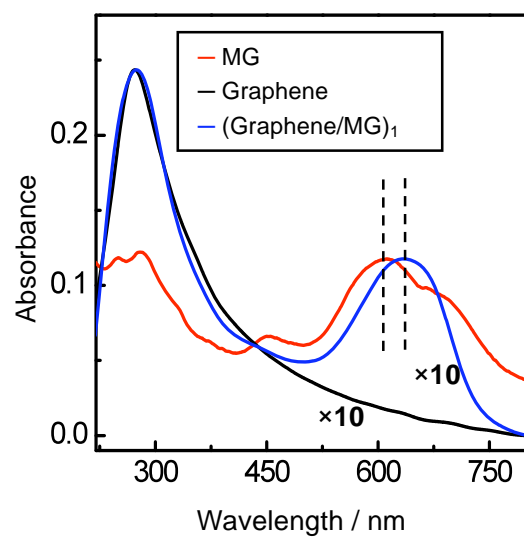


Figure S2. UV-*vis* spectra of MG (red curve), graphene (black curve), and (graphene/MG)₁ (blue curve) all adsorbed onto a quartz slide. The absorbance of both graphene and (graphene/MG)₁ was amplified by 10 times for a convenient comparison.

Figure S3 – L. Mao *et al.*

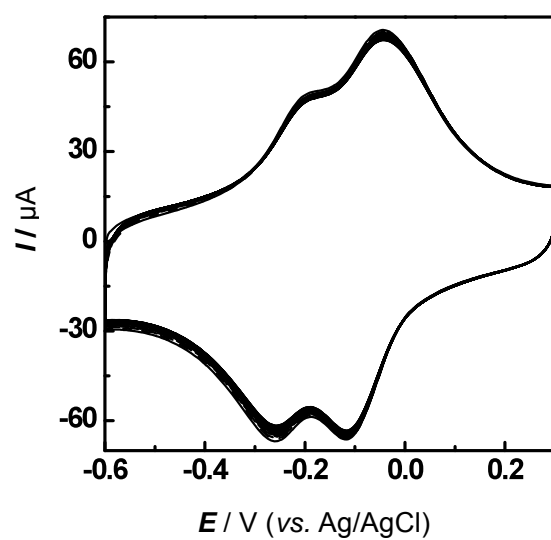


Figure S3. Consecutive cyclic voltammograms obtained at the (graphene/MG)₅ multilayer films assembled onto GC electrode in 0.10 M phosphate buffer (pH 6.0) for 50 cycles. Scan rate, 100 mV s^{-1} .