Supplementary Information

A highly sensitive NADH sensor based on mycelium-like nanocomposite using graphene oxide and multi-walled carbon nanotubes to coimmobilize poly(luminol) and poly(neutral red) hybrid films

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†Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/b000000x/

UV-Vis spectra of different materials and mixtures

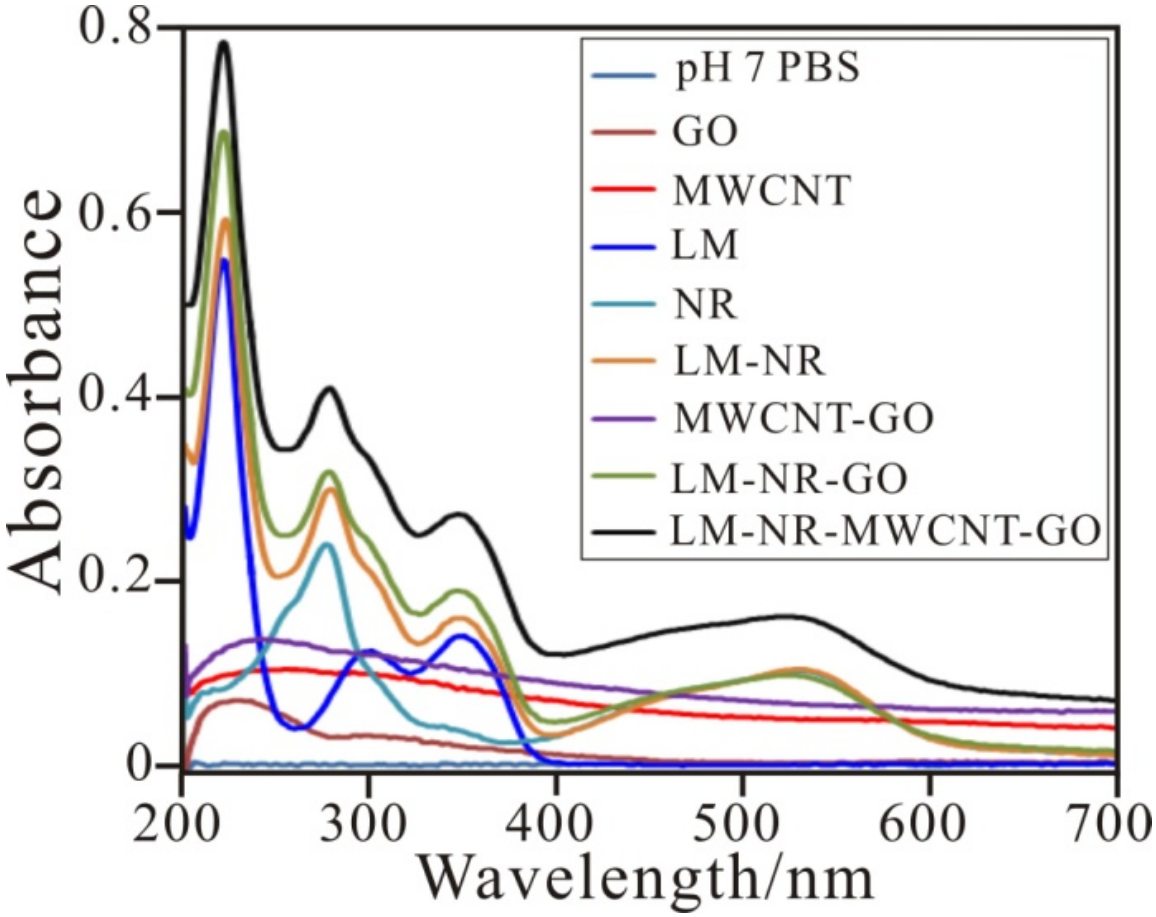

Figure S1 UV-Vis spectra of different pH 7 PBS solutions containing blank, LM, NR, GO, MWCNT, and their mixtures. Path length = 1 cm.

SEM images of different modified electrodes

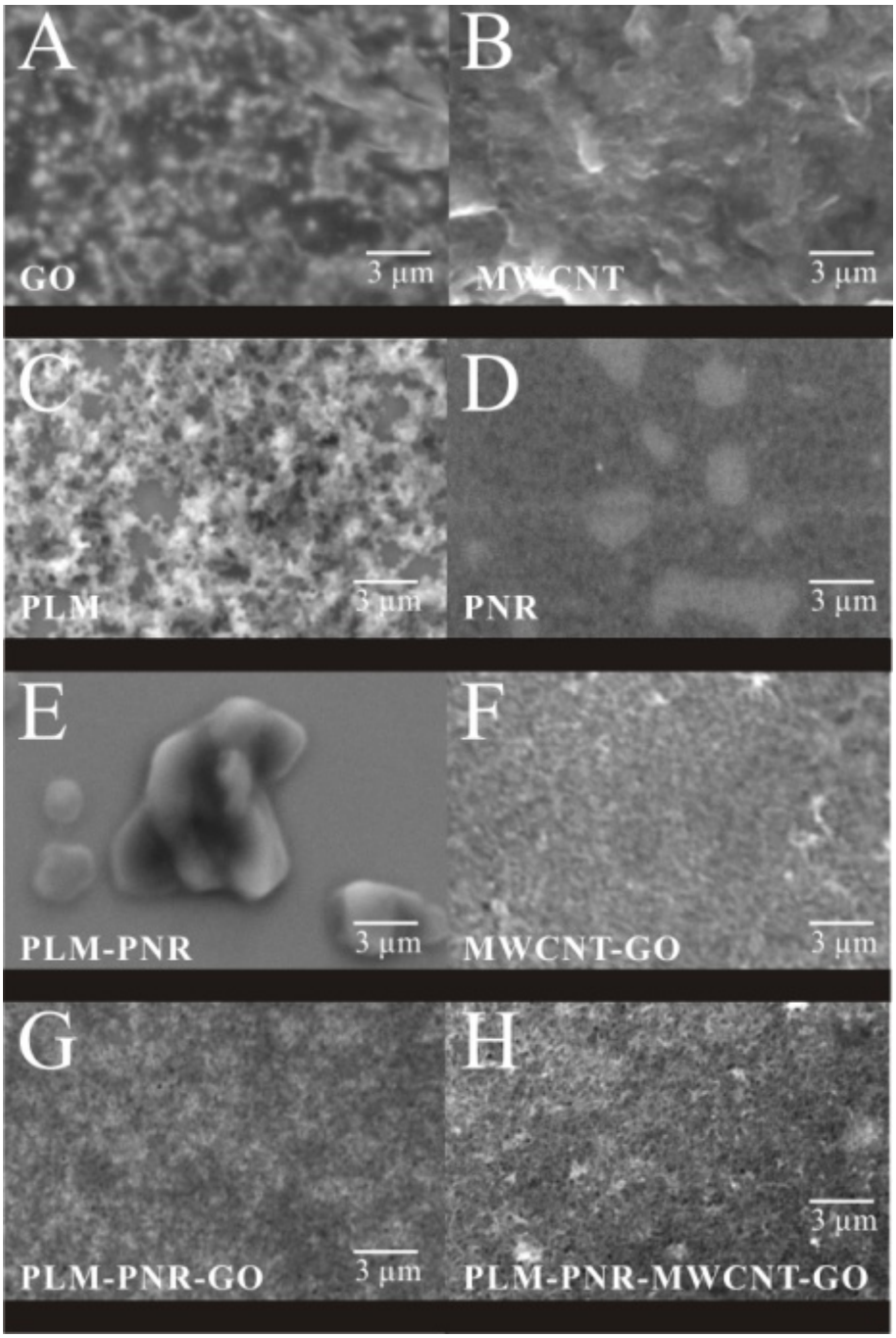

Figure S2 SEM images of (A) GO, (B) MWCNT, (C) PLM, (D) PNR, (E) PLM-PNR, (F) MWCNT-GO, (G) PLM-PNR-GO, and (H) PLM-PNR-MWCNT-GO coated ITO electrodes.

Comparison of the different modifiers used for electrocatalytic oxidation of NADH

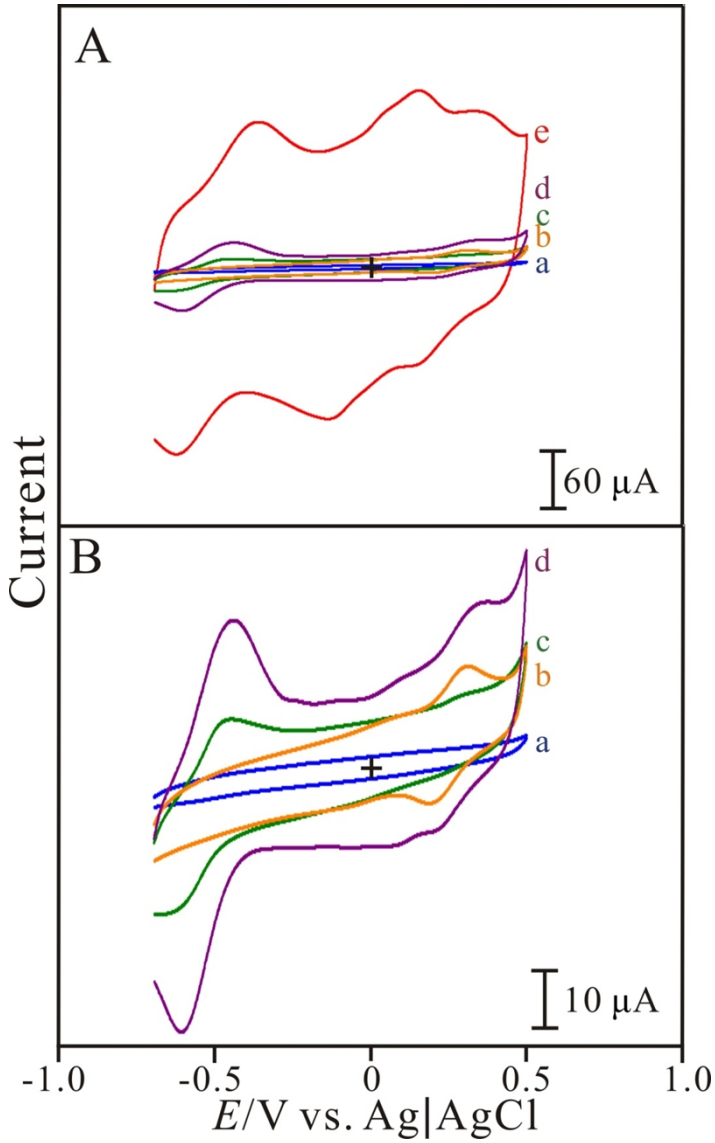

Figure S3 (A) Cyclic voltammograms of different modifiers containing (a) bare, (b) PLM-MWCNT-GO, (c) PLM-PNR-MWCNT, (d) PLM-PNR-GO, and (e) PLM-PNR-MWCNT-GO modified GCEs examined in pH 7 PBS containing 1×10^{-4} M NADH. Scan rate = 0.1 Vs^{-1}. (B) Scale-up voltammograms of (a) bare, (b) PLM-MWCNT-GO, (c) PLM-PNR-MWCNT, and (d) PLM-PNR-GO modified GCEs.

Table S1 The anodic peak potential (E_{pa}) and the net current response (ΔI_{pa}) of different modifiers for electrocatalytic oxidation of NADH.

Modifiers	E_{pa}[a] /mV	ΔI_{pa}[b] /μA
Bare GCE	450	0.48
GO	94	0.25
	383	2.40
MWCNT	115	0.78
PLM	305	0.01
PNR	193	0.29
MWCNT-GO	80	1.48
	311	1.04
PLM-PNR	167	0.66
	313	0.34
PLM-PNR-GO	83	0.01
	343	0.37
PLM-PNR-MWCNT	133	0.53
	293	1.45
PLM-MWCNT-GO	76	1.46
	311	0.10
PLM-PNR-MWCNT-GO	144	18.50
	369	5.90

[a] The anodic peak potential of modifiers measured for 1×10^{-4} M NADH.

[b] The net current response of modifiers measured in the absence/presence of 1×10^{-4} M NADH.

Interference study of the PLM-PNR-MWCNT-GO composite by linear sweep voltammetry (LSV)

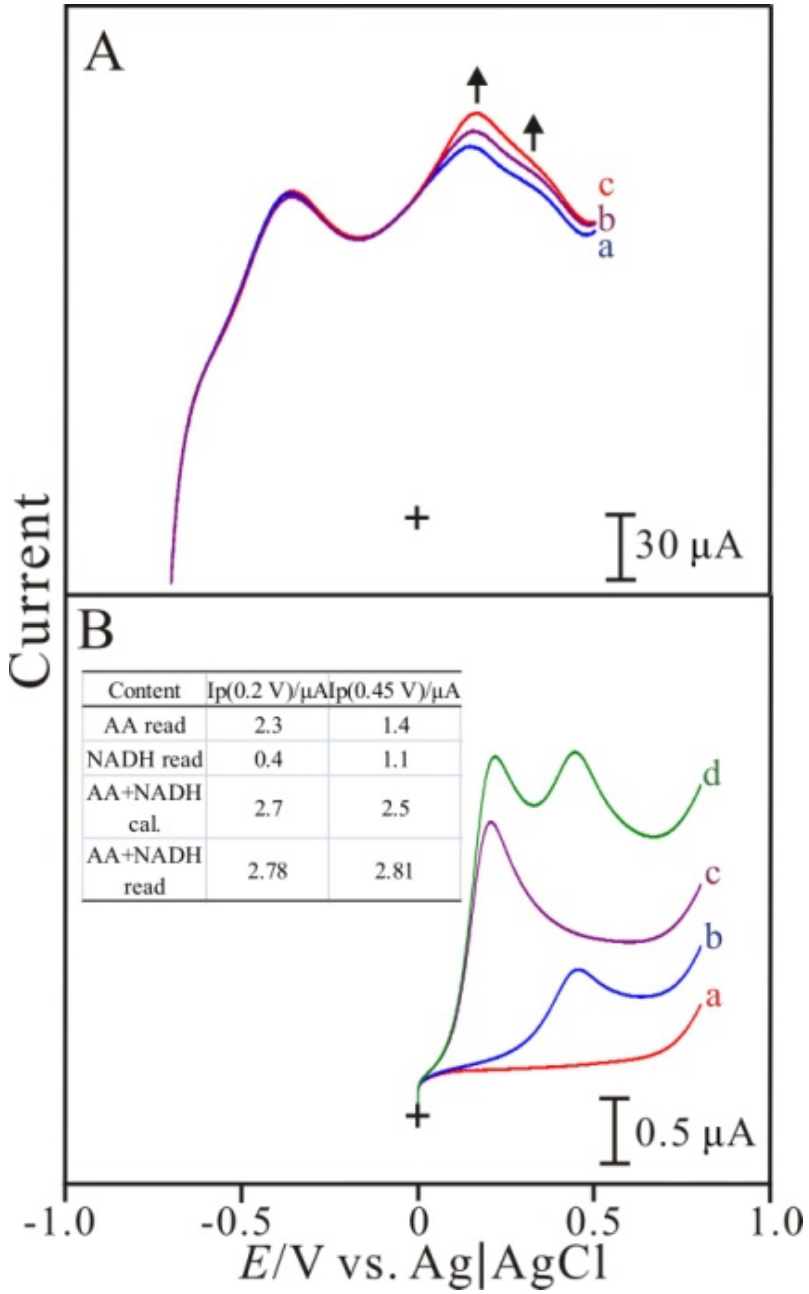

Figure S4 Linear sweep voltammograms of (A) PLM-PNR-MWCNT-GO/GCE examined in pH 7 PBS in the presence of (a) blank, (b) 1×10^{-4} M AA, (c) 1×10^{-4} M AA + 1×10^{-4} M NADH; and (B) bare GCE examined in the presence of (a) blank, (b) 1×10^{-4} M NADH, (c) 1×10^{-4} M AA, and (d) 1×10^{-4} M AA + 1×10^{-4} M NADH. Scan rate = 0.1 Vs^{-1}. Inset: the current estimation of AA, NADH, and AA + NADH.