Supporting Information

Antimony Selenide/Graphene Oxide Composite for Sensitive Photoelectrochemical Detection of DNA Methyltransferase Activity

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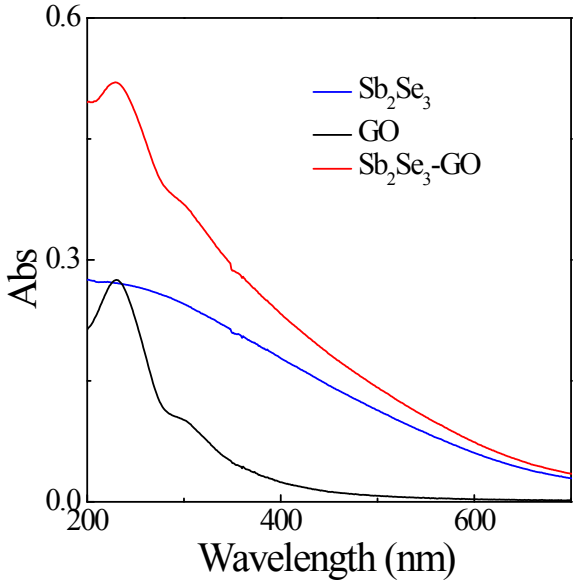

Fig. S1 UV-vis absorption spectra of Sb_2Se_3, GO and Sb_2Se_3-GO.

Optimization of experimental conditions.

To optimize the performance of the PEC immunosensor for Dam MTase detection, the ratio of GO to Sb_2Se_3 was optimized.

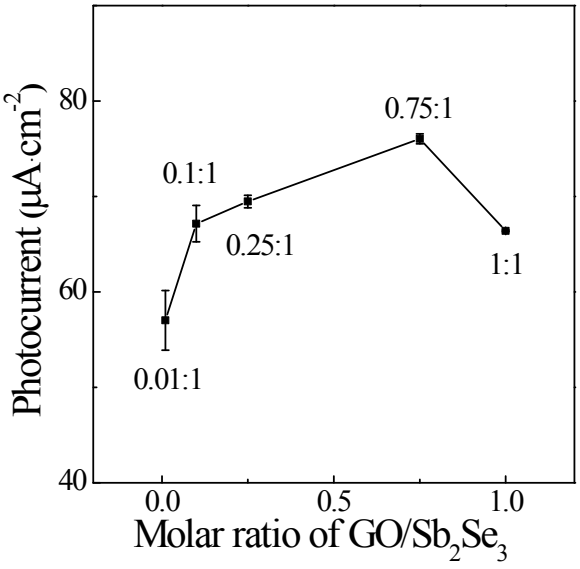

Fig. S2 Photocurrent responses of different molar ratios of GO:Sb_2Se_3 in Sb_2Se_3-GO composites.

As revealed in Fig. S2, the photocurrent increased when the molar ratio of GO:Sb_2Se_3 increased from 0.01:1 to 0.75:1, which could be ascribed to the increased carboxyl groups on the surface of GO and the subsequent increase in hDNA capture, thereby increasing the capture of S1-Au NPs. Upon further increasing the relative content of GO, the photocurrent intensity gradually decreased, probably due to the poor conductivity of GO. Thus, a GO:Sb_2Se_3 molar ratio of 0.75:1 was selected as the optimized value for the following biosensing studies.