

Supporting Information

Laser-induced graphene-based electrochemical immunosensor for nucleic acid methylation detection

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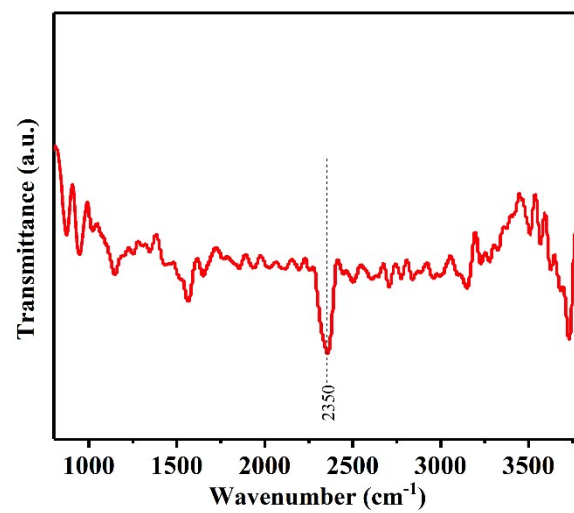


Fig. S1 FTIR spectrum of LIG.

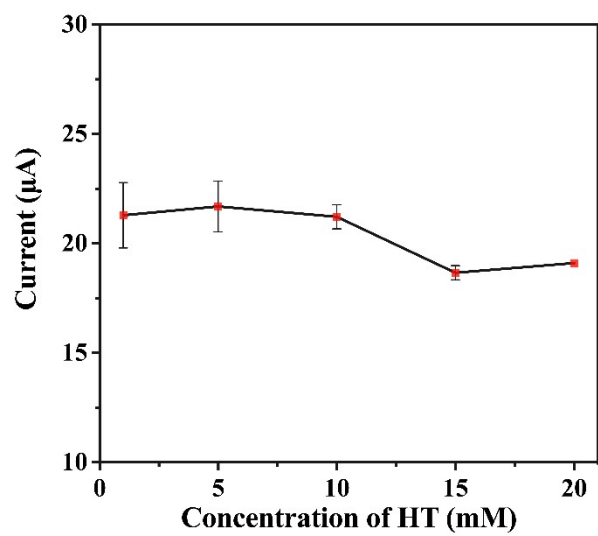


Fig. S2 Different concentration of HT.

Table S1. Electrochemical strategies for m6A-RNA and 5mC-ssDNA detection.

Electrode	Target	Signal amplification strategy	Linear range	LOD	Refs
AuNPs/Au	5mC-DNA	HRP-IgG for catalyzing HQ/H ₂ O ₂ redox system	1 fM–10 nM	0.84 fM	1
GO-Fe ₃ O ₄ -CD/GCE	5mC-DNA	ALP-Avidin-PAMAM	0.01–50 nM	3.2 pM	2
MB-SPCE	5mC-DNA	HRP for catalyzing HQ/H ₂ O ₂ redox system	4.0–250 pM	1.2 pM	3
Microfluidic chip	5mC-DNA	MBD1 conjugated with SiNP causing signal current decrease	50 pM–500 nM	11.8 pM	4
Au electrode	m6A-RNA	Immune competition of m6A-RNA and m6A-DNA with RNase helped signal amplification	0.05–200 nM	16 pM	5
AuNPs/GCE	m6A-RNA	Decreased signal of [Fe(CN) ₆] ³⁻ / [Fe(CN) ₆] ⁴⁻ caused by antibody recognizing methylated RNA	0.01-10 nM	2.57 pM	6
Au electrode	m6A-RNA	Competition of m6A-RNA and m6A-DNA-PtCo and PtCo catalyzing H ₂ O ₂ reduction	0.005-100nM	2.1 pM	7
AuNPs/Au	m6A-RNA	RNA ligase helping hybridization and HRP-IgG-AuNPs catalyzing H ₂ O ₂ -HQ redox system	10 fM-10 nM	3.35 fM	8
AuNPs/LIG	5mC-ssDNA	Biotinylated-antibody binding SA-HRP and catalyzing H ₂ O ₂ -HQ redox system	0.01–10 nM	9.53 pM	This work
AuNPs/LIG	m6A-RNA		0.01–10 nM	2.81 pM	This work

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