

Supplementary Materials

# An Efficient Voltammetric Sensor Based on Graphene Oxide-Decorated Binary Transition Metal Oxides Bi<sub>2</sub>O<sub>3</sub>/MnO<sub>2</sub> for Trace Determination of Lead Ions

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**Table S1.** Interference of selected ions on determination of Pb<sup>2+</sup> with Bi<sub>2</sub>O<sub>3</sub>/MnO<sub>2</sub>/GO/GCE.

Interferences	Concentration(μM)	Contribution (%)
Na <sup>+</sup>	100	-1.83
K <sup>+</sup>	100	-1.56
Ca <sup>2+</sup>	100	+2.72
Mg <sup>2+</sup>	100	+3.06
Zn <sup>2+</sup>	100	+4.89
Fe <sup>2+</sup>	100	+3.76
Co <sup>2+</sup>	100	+4.82
Cu <sup>2+</sup>	100	+3.35
Cd <sup>2+</sup>	100	+4.07
Al <sup>3+</sup>	100	-2.08
Cl <sup>-</sup>	100	-0.86
NO <sub>3</sub> <sup>-</sup>	100	+1.76
SO <sub>4</sub> <sup>2-</sup>	100	+2.48
PO <sub>4</sub> <sup>3-</sup>	100	+2.21

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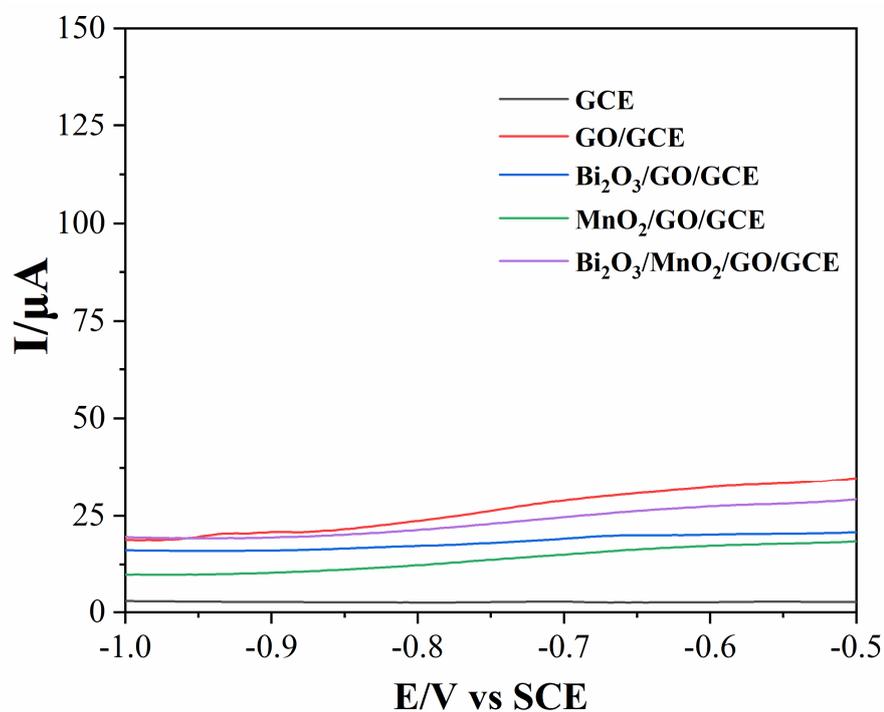
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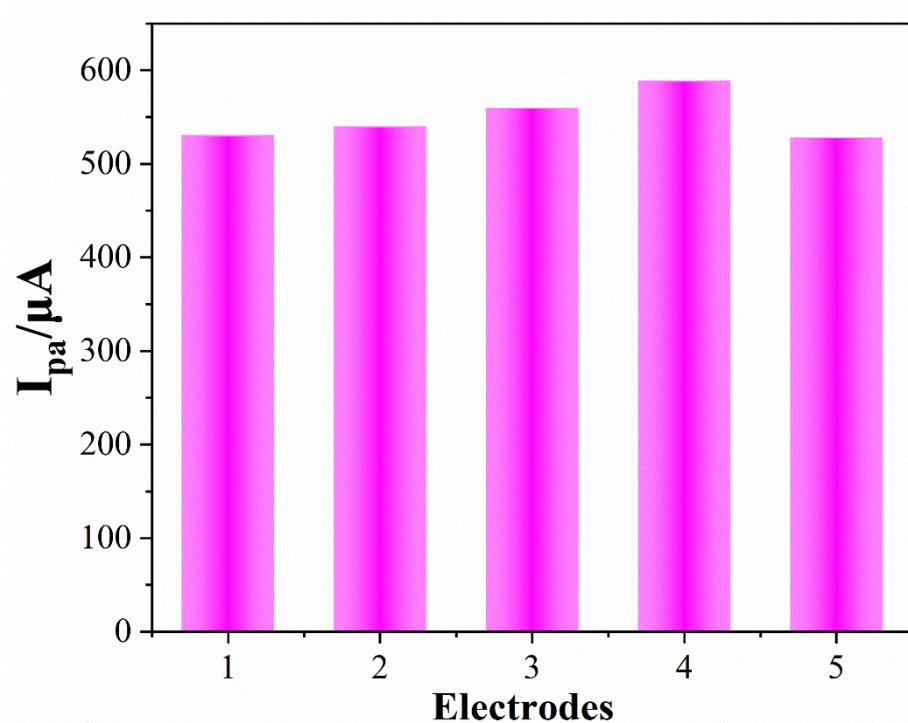
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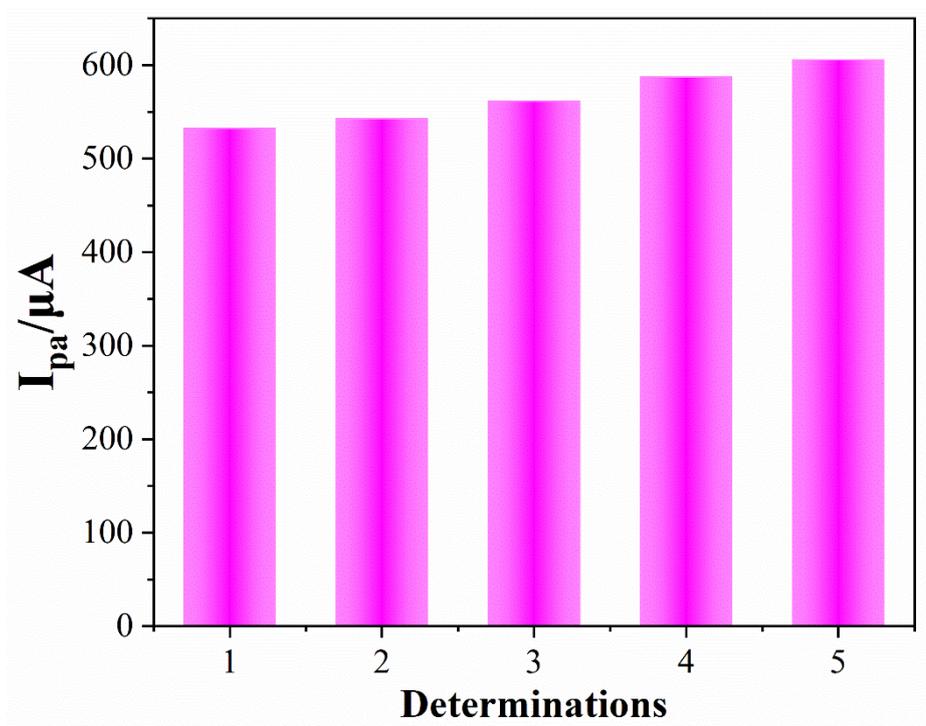
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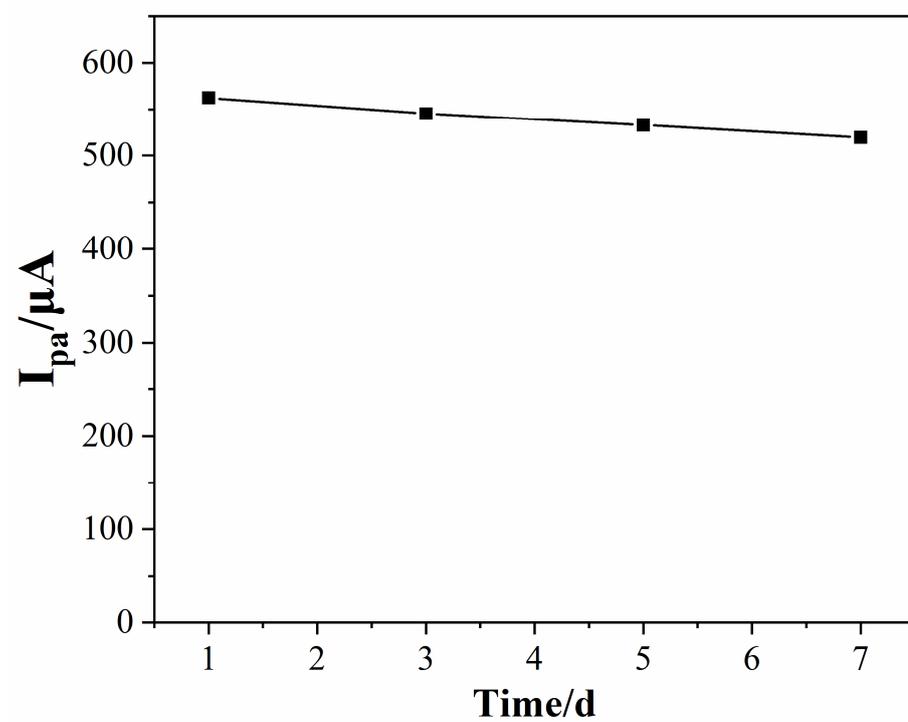
**Figure S1.** SWASV curves for the  $Bi_2O_3/MnO_2/GO/GCE$  recorded in the absence of  $Pb^{2+}$  (0.1 M HAC-NaAc buffer, pH=5.5).



**Figure S2.** Stripping peak current for parallel detections of 10  $\mu M$   $Pb^{2+}$  using five independent  $Bi_2O_3/MnO_2/GO/GCE$ s.



**Figure S3.** Stripping peak current for five consecutive detections of  $10 \mu M Pb^{2+}$  using the same  $Bi_2O_3/MnO_2/GO/GCE$ .



**Figure S4.** Change in the stripping peak current of  $10 \mu M Pb^{2+}$  within a week.