

# A Novel Strategy for Selective Thyroid Hormone Determination Based on an Electrochemical Biosensor with Graphene Nanocomposite

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## Supplementary Materials

**Table S1.** Analytical parameters of the calibration curve of GCE/Fe<sub>3</sub>O<sub>4</sub>@graphene/Ab/Lac with DPV technique.

Linear range	LOD	LOQ	R <sup>2</sup>	Slope	SD of slope	Intercept	SD of intercept
10 – 200 μM	27 nM	45.9 nM	0.997	0.028	0.0011	1.28	0.0046

### Equation S1. Limit of Detection

The limit of detection (LOD) for described method was calculated as shown in equation S1:

$$\text{LOD} = 3.29 \sigma_B/b, \text{ (S1)}$$

where  $\sigma_B$  is the standard deviation of the population of blank responses and  $b$  is the slope of the regression line.

Calculated LOD was equal to 27 nM.

### Equation S2. Limit of Quantification

Theoretical limit of quantification (LOQ) for constructed biosensor was determined based on equation S2:

$$\text{LOQ} = 5 \sigma_B/b, \text{ (S2)}$$

where  $\sigma_B$  is the standard deviation of the population of blank responses and  $b$  is the slope of the regression line, and was equal to 45.9 nM.