Simultaneous Detection of Morphine and Diclofenac Using Graphene Nanoribbon Modified Screen-Printed Electrode

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doi: 10.20964/2020.09.14

Received: 13 April 2020 / Accepted: 25 June 2020 / Published: 10 August 2020

The graphene nanoribbon modified screen printed electrode (G/SPE) has been produced to determine morphine and diclofenac via differential pulse voltammetric, cyclic voltammetric, and chronoamperometry. Graphene nanoribbon shows great selectivity and sensitivity in determining morphine and diclofenac. The impact of scan rates has been explored. Findings showed that it is diffusion-controlled. The impact of morphine concentrations has been investigated in ranges of 0.07-600.0 μ M. Determination limit for morphine has been 20.0 nM. In general, an easy experimental method for manufacturing graphene oxide nanoribbon has been suggested that takes advantage of selectivity, reproducibility, and sensitivity toward electro-active specimens, as well as biological matrices.

Keywords: Morphine, Diclofenac, Graphite Screen Printed Electrode, Graphene nanoribbon.

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