

Graphene Based Microsensors for the Assay of Adenine,
Guanine and Epinephrine

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New amperometric microsensors based on graphene and phthalocyanines: basic phthalocyanine (Pc), Fe^{III}phthalocyanine (FePc) and Co^{II}phthalocyanine (CoPc) are proposed for the assay of adenine (A), guanine (G) and epinephrine (Epi) in biological fluids, using differential pulse voltammetry (DPV). DPV was used for the reliable assay of the three analytes in biological samples. Cyclic voltammetry (CV) was used to optimize the working conditions, e.g., pH, and electrolyte for the proposed microsensors.

The optimum electrolytes were KCl 0.1 mol L⁻¹ and KNO₃ 0.1 mol L⁻¹ in phosphate buffer solution (pH 4.0). Epinephrine, guanine and adenine were recovered reliably from urine samples in percentages higher than 90.00%.

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