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Selective determination of thiamine using poly brilliant cresyl blue modified graphite electrode

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Deoxyribonucleic acid (DNA) has several applications from medical diagnoses and forensic testing to digital storage information. Low-cost and facile synthesis devices for nucleotide detection have large applications in environmental monitoring, material validation, food fraud and hygiene and sanitation verification. In this work is presented a high selectivity and sensitivity, easy operation, low cost, short analysis time, simple sample preparation, and fast detection biosensor for Thymine determination based on a graphite electrode modified by cyclic voltammetry technique for organic dye polymerization. The formed Cresyl Brilliant Blue Polymer (PBCB) film was initially characterized by FTIR, AFM and SEM. The modified electrode showed good sensitivity in detecting the nitrogenous base through electrochemical techniques as Cyclic Voltammetry (CV), Differential Pulse Voltammetry (DPV), Linear Sweep Voltammetry (LSV) and Chronoamperometry (CA) in PBS solution with pH=7.0.