Short Communication

Graphite-Doped Polyimide Films for Sensitive Non-Enzymatic Amperometric Determination of Catechol

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In this study, a novel graphite (GR)-doped polyimide (PI) film was fabricated for the determination of catechol (CC). The electrocatalytic oxidation of CC in a mild aqueous medium was investigated. Under optimized conditions, the linear range of CC is from 0.1 to 10 mM with a detection limit of 11.3 μ M. The electrode exhibited extremely high stability, and it maintained 95% of its initial activity after six months in storage. In addition, the GR/PI film sensor showed excellent selectivity, good sensitivity and wide linear range. The results show that polyimide film can be used as a suitable sensor for catechol, expanding a new application for polyimide films on flexible electric devices.

Keywords: polyimide film, graphite powder, catechol, nonenzymatic sensor

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