A Disposable Single-Use Electrochemical Sensor for Detection of Resorcinol Based on Electrochemically Activated Screen Printed Carbon Electrode in Hair Dyes

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A simple and effective amperometric sensor based on activated screen printed carbon electrode (ASPCE) was successfully fabricated for the electrochemical determination of resorcinol (RC). The ASPCE was fabricated by electrochemical method and it was characterized by using various numerous technique. The electrocatalytic behaviour of the fabricated ASPCE were examined by the cyclic voltammetry (CV) and amperometric method (I-T). Remarkably, ASPCE exhibited an excellent electrocatalytic activity in terms of decrease the potential and increase the anodic peak current for the detection of RC when compared to bare SPCE. The ASPCE was successfully determined the GA and it showed linear response range from 1 to 49.67 μM and the low detection of limit (LOD) of 0.288 μM . Furthermore, the proposed sensor electrode was revealed an excellent selectivity and good stability. To the best of our knowledge, this fabricated electrode is cost effective and good electrochemical performance towards the determination of RC when compared with previously reported other chemically modified electrodes.

Keywords: Resorcinol, Cyclic voltammetry, Electrochemistry, Activated screen printed carbon electrode.

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