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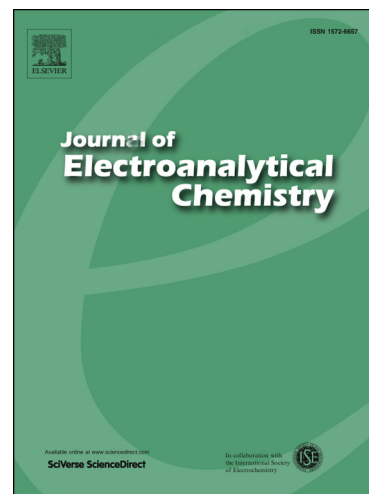
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**Pretreated/Carbon paste electrode based voltammetric sensors for the detection of
Dopamine in presence of Ascorbic Acid and Uric Acid**

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Abstract

A voltammetric resolution for the determination of dopamine using a Pretreated/Carbon paste electrode was developed. The Pretreated/Carbon paste electrode showed excellent electrocatalytic activity towards the oxidation of dopamine in phosphate buffer solution (pH 7.0). From the electrochemical studies of scan rate, the overall electrode process was diffusion and adsorption controlled. The pH effect suggested that equal number of protons and electrons were involved in the electrochemical detection of dopamine. Detection limit (LOD) was calculated in phosphate buffer solutions at pH 7.0 and the interference studies showed that the modified electrode exhibited excellent selectivity in the presence of large excess of ascorbic acid and uric acid. The separation of the oxidation peak potentials for dopamine–ascorbic acid and dopamine–uric acid was found to be 0.187 V and 0.121 V, respectively. These differences were large enough to determine dopamine, ascorbic acid and uric acid individually and simultaneously by using cyclic voltammetry and differential pulse voltammetric techniques.

Keywords: Pretreated/Carbon paste electrode, Voltammetry, Dopamine, Ascorbic acid, Uric acid.

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