

## Disposable PANI-CeO<sub>2</sub> Sensor for the Electrocatalytic Simultaneous Quantification of Amlodipine and Nebivolol

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**Abstract :** A chemically modified carbon paste sensor has been developed for the simultaneous determination of amlodipine (AML) and nebivolol (NBV). Carbon paste electrode (CPE) was fabricated by the addition of Gr/PANI-CeO<sub>2</sub>. Gr/PANI-CeO<sub>2</sub>/CPE has achieved excellent electrocatalytic activity and sensitivity. AML and NBV exhibited oxidation peaks at 0.70 and 0.90 V respectively on Gr/ PANI-CeO<sub>2</sub>/CPE. The linearity range of AML and NBV was 0.1 to 1.6 µg mL<sup>-1</sup> in BR buffer (pH 8.0). The Limit of detection (LOD) was 20.0 ng mL<sup>-1</sup> for AML and 30.0 ng mL<sup>-1</sup> for NBV and limit of quantification (LOQ) was 80.0 ng mL<sup>-1</sup> for AML and 100 ng mL<sup>-1</sup> for NBV respectively. These analyses were also determined in pharmaceutical formulation and human serum and good recovery was obtained for the developed method.

**Keywords :** amlodipine, nebivolol, square wave voltammetry, carbon paste electrode, simultaneous quantification

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