International Journal of ChemTech Research
CODEN (USA): IJCRGG ISSN: 0974-4290
Vol.9, No.02 pp 136-146, 2016

# Poly (Nigrosine) Modified Electrochemical Sensor for the Determination of Dopamine and Uric acid: A Cyclic Voltammetric Study

**J.G. Manjunatha**

**Dept of Chemistry, FMKMC College, Madikeri, Mangalore University Constituent College, Karnataka, India**

**Abstract:** A new modified electrode based on poly (Nigrosine) has been prepared and applied on the electrochemical determination of biomolecules such as dopamine [DA] and uric acid [UA] using voltammetric methods. In this study, the poly (Nigrosine) modified carbon paste electrode [PNMCPE] gives greater current responses for DA compared with bare carbon paste electrode [BCPE]. The effect of pH, thickness, scan rate, detection limit and concentration of dopamine on the peak current was determined. The oxidation peak current of DA showed linear dynamic range $1x10^{-6}$ to $3.2 \times 10^{-5}$ and $3.2 \times 10^{-5}$ to $1 \times 10^{-4}$ M with a detection limit of $8.9 \times 10^{-7}$, by cyclic voltammetry [CV] method. It has been successfully applied to the determination of dopamine in dopamine hydrochloride injection with recoveries ranging from 99.5% to 102.25%. The proposed method possesses the distinct advantages of simple, appropriate for operation, good reproducibility, and cheap instrument.
**Keywords:** poly (Nigrosine), Carbon paste electrode, Dopamine, Uric acid.

**J.G. Manjunatha** /Int.J. ChemTech Res. 2016,9(2),pp 136-146.

*****