

ABSTRACT

ELECTROCHEMICAL DETECTION OF DOPAMINE BY SINGLE USE NANOMATERIAL BASED SENSORS

Melike Sari CANTOPCU

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Supervisors: Assistant Prof. Mihrican ERDEM
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Dopamine is a substantial neurotransmitter for the central nervous system. Even very low amounts of dopamine causes the nerve system disorders such as Schizophrenia and Parkinson's disease. Rapid and accurate determination of the concentration of dopamine in the body fluid is important for diagnosis of diseases.

Purpose of the studies conducted in this thesis is to investigate the availability in sensor technology of nanomaterials of different characteristics. Dopamin was analyzed in the presence of uric acid and ascorbic acid by using unmodified pencil graphite electrode (PGE) and carbon nanotube modified PGE in this thesis. The availability of this method, the advantages and disadvantages have been evaluated.

Keywords: Dopamine, Electrochemistry, Carbon nanotube, Disposable electrodes.