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## Electrochemical behaviour of duloxetine HCl drug in formulation and spiked human serum at a carbon paste electrode

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The electrochemical behavior of duloxetine HCl (DXT.HCl) drug was investigated. Two precise linear sweep and square wave adsorptive anodic stripping voltammetry methods have been described for its trace quantitation in pharmaceutical formulation and human serum. A mechanism of its oxidation was reported and illustrated. The method shows the development of a sensor for selective and sensitive determination of DXT.HCl. DXT.HCl has been oxidized at a CPE via 2-electron due to oxidation of its secondary amino group. The strong adsorption phenomenon of DXT.HCl can be used as an effective preconcentration step prior to the actual voltammetric quantification of the analyte. Two precise linear sweep and square wave adsorptive anodic stripping voltammetry methods have been described for its trace quantitation in pharmaceutical formulation and human serum. The methods were simple, rapid, and in expensive and sophisticated apparatus or expensive solvents, in comparison with other methods used previously for the study of DXT.HCl. So the proposed method can be used for the routine analysis of DXT.HCl, either alone or in its pharmaceutical formulations. However, the proposed SW-AdASV method has a better detection limit in spiked human serum ( $LOD=2.1 \times 10^{-8} \text{ mol L}^{-1}$ ), therefore it is sensitive enough for assay of DXT.HCl in human plasma of real samples and for pharmacokinetic studies. It can be also recommended for its quantification in quality control and clinical laboratories.

### Biography

Youssef I Moharram has completed his PhD at Tanta University in Egypt and Leeds University in UK (Channel System). He has published more than 25 papers.

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