The Electrochemical Redox Mechanism and Antioxidant Activity of Oleanolic Acid Based on Multi-walled Carbon Nanotuber Screen-printing Electrode

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This article emphasis on the application of the multi-walled carbon nanotubes screen printing electrodes(MWCNTs/SPEs) to reseach of plant active constituent (oleanolic acid, OA) by electrochemistry analytic procedure. The work explores the optimization of reaction conditions of OA. The stoichiometric ratio of OA on DPPH about 1:1, electrochemical redox mechanism and antioxidant activity of OA were obtained by the determination of electrochemical kinetics parameters such as electron transfer numbers \((n)\), protons \((m)\), electron charge coefficient \((\alpha)\), and standard electron transfer rate constant \((k)\) are 1, 1, 0.66, 0.53 respectively based on electrochemical behavior at MWCNTs/SPEs. This method is fast, convenient, low-cost, practicable and can be used to the trace amount determination of the content of triterpenes in natural product.

**Keywords:** Screen-printed electrodes; Oleanolic acid; Electrochemical redox mechanism; Antioxidant activity;

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