

Voltammetric Methods for the Determination of Pharmaceuticals

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The review contains over 140 literary references in the field of the voltammetry for determination of pharmaceutical compounds, including pharmacopoeia, monographs, review articles and original works since 2010. The trends, advantages, prospects and limitation of the method in the analysis of pharmaceuticals, biological fluids have been shown. It is noted working electrodes from various materials is used for determination of pharmaceutical compounds. These include glassy carbon, pencil graphite, carbon paste, boron doped diamond, hanging drop mercury electrodes etc. Different materials such as carbon nanotubes, gold, platinum, silver nanoparticles, molecularly imprinted conducting polymers, surfactants, enzymes, graphene, metal complexes were used for the modification of electrode surface. The methods of cyclic voltammetry, differential pulse, square wave, adsorptive stripping, solid state voltammetry of microparticles were described. Many of the proposed methods for determination of pharmaceutical formulations and biological fluids don't require previous extraction of analyte. The analysis of particularly complex matrix requires sample preparation, but it isn't more difficult than for other methods. The purpose of the review is to draw attention of Ukrainian specialists to successful world experience of the practical application of the voltammetric method for determination of active substance of drugs, using methods that have been validated.

Keywords: voltammetry, working electrodes, pharmaceuticals, review