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Recent Developments on Electrochemical Flow Injection in Pharmaceuticals and Biologically Important Compounds

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Abstract:

The improvement of life quality has stimulated considerable research in drug design bioavailability and safety. Thus, to reach these targets, highly sensitive, specific, and rapid methods of analysis are necessary. Flow injection analyses (FIA) has been used successfully in proof-of-principle research studies to the pharmaceutically active and biologically important compounds via electrochemical methods. Different types of FIA methods such as reverse FIA and stopped FIA have applied over the last few years significantly changing the scope and sensitivity of analytical methods, especially using electrochemical detectors. Electrochemical methods are widely used in flow injection techniques on drug active and biologically important compounds. Hence, drugs can be selectively detected and sensitively determined using electrochemical methods as detector. In recent years, the flow injection methodology of analytical determinations has gained already many technical modifications using electrochemical methods. It is a general solution-handling technique, applicable to a variety of tasks ranging from pH or conductivity measurement, to colorimetry, titrations and enzymatic assays. Analyses, which used a FIA system, requires less analyte than conventional methods accompanied by a rapid detection as well as shorter reaction time. FIA based on electrochemical methods can be called most environmentally friendly analyzing method owing to less analyte consumption. In this review,