# A Green Potentiometric Application for Selective Monitoring of Doxylamine Succinate Dissolution Profile in Combined Dosage Form

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**Abstract**

Green analytical chemistry" (GAC) succeeded to become an eco-friendly environmental crucial area in the field of analytical chemistry targeting at the chemical processes' and products' optimization regarding to material consumption, generation of waste and intrinsic safety, toxicity and environmental burdens. For an expressive comparison, an electro-analytical in-line potentiometric selective determination of Doxylamine succinate (DOX) in a multi- component pharmaceutical dosage form containing both Caffeine (CAF) and Paracetamol (PAR) has been successfully developed and validated. A real-time monitoring of the dissolution profile of DOX from its pharmaceutical formulation was achieved by the proposed sensor without any interference from paracetamol or caffeine even without pretreating neither the sample nor its derivatization. A cationic exchanger; Potassium tetrakis (4-chlorophenyl) borate (KTCPB), polyvinyl chloride (PVC) based membrane and a plasticizer; 2-nitrophenyl-octyl-ether (2-NPOE) were employed for the fabrication DOX-selective sensor. The proposed sensor showed Nernstian response slope of 29.8 mV/concentration decades from 10-6 to 10-2 mol L-1. ICH guidelines' validation parameters; linearity, accuracy, precision and robustness were performed on the proposed green eco-friendly potentiometric method.

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