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In-line potentiometric monitoring of dissolution behavior of Verapamil Hydrochloride versus traditional pharmacopeial method: A comparative study

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Highlights

- Novel in-line potentiometric method for dissolution monitoring of pharmaceuticals
- Simple and inexpensive ion selective electrode was fabricated
- Comparative study with traditional pharmacopeial method was established
- The potentiometric method showed many advantages over the pharmacopeial method
- A green eco-friendly technique that neither require pre-treatment nor solvents

Abstract

The possibility of obtaining analytical signals without sample pre-treatment or derivatization is the most environmentally friendly method of analysis. In this work a comparison between potentiometric methods and traditional spectrophotometric and HPLC methods for monitoring of dissolution of drugs was established. As an example, an electro-analytical procedure was developed and validated for studying the dissolution of sustained release capsules containing verapamil hydrochloride (VER) by in-line potentiometric measurement system without sample pre-treatment. A sensor was fabricated for determination of VER in its dissolution medium using a poly (vinyl chloride) (PVC) based

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