



Conductometric Determination of Commercial Chloride Drugs and Pharmaceuticals using Ammonium Molybdate as Precipitating Agent

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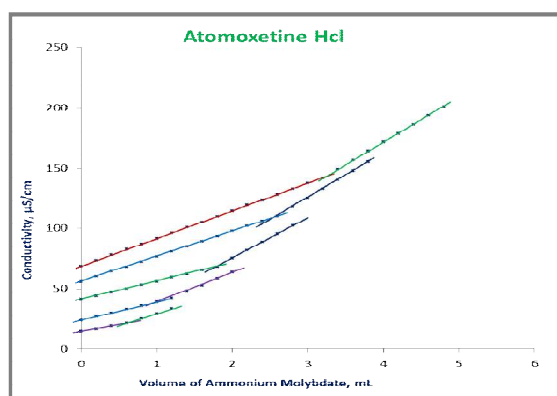
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ABSTRACT

Simple, sensitive, accurate, cost effective and precise Conductometric method for quantitative determination of Five Cationic commercial drugs viz. Atomoxetine HCl(ATM), Ciprofloxacin HCl(CIP), Epinastine HCl(EPN), Itopride HCl(ITP) and Mebeverine HCl(MEB) were developed. The method was based on the formation of insoluble salt ($[\text{Drug}]_6\text{Mo}_4\text{O}_7$) between the Drug Cation of Drug Molecules and Molybdate anion of Ammonium Molybdate(AMB) solutions. Aliquots of standard drug solution (2.5-15 mL) which is containing 2.5-15 mg pure drug and 2.5×10^{-3} M Ammonium Molybdate taken in burette was used for titration. The observed conductance reading was taken and corrected conductance i.e. $\Omega^1_{\text{correct}} = \Omega^1_{\text{obs}} [V1+V2/V1]$. A graph of corrected conductivity Vs volume of added titrant was constructed and the endpoint was determined graphically at the intersection of two lines. The amount of drugs under study was calculated according to the equation for amount of drug = $V.M.R / N$. The proposed method was successfully applied in the determination of the above five metal anionic Drugs and Pharmaceutical formulations, with results in close agreement at a 95% confidence level with those obtained using spectrophotometric determination method.

Graphical Abstract



Conductometric curves of 2mg, 4mg, 6mg, 8mg and 10mg of ATM with AMB

Keywords: Anionic Drugs, Conductometric, Determination, Ammonium Molybdate, Hydrochloride.