



Conductometric Method for Determination of Drugs and Pharmaceuticals by Using Sodium Tetra Phenyl Borate

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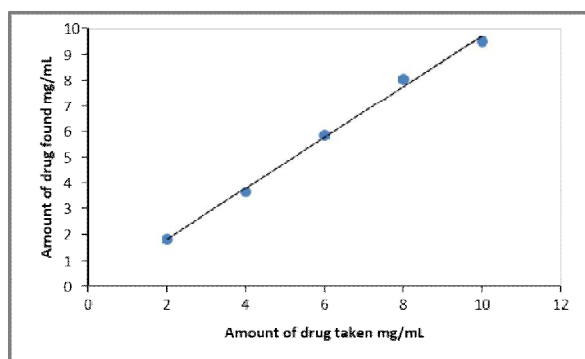
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ABSTRACT

Simple, sensitive, accurate, cost effective and precise Conductometric method for quantitative determination of Five cationic salt commercial drugs viz., Cefepime HCl(CEFE), Ractopamine HCl(RAC), Quetiapine fumarate(QUE), Escitalopram Oxalate (ESC), Sumatriptan Succinate(SUM) were developed. The method was based on the formation of insoluble salt ($[Drug]^+TPB^-$) between the Drug Cation of salt drugs and tetra phenyl borate anion of Sodium tetra phenyl borate(NaTPB) solutions. Aliquots of standard drug solution (1-10 mL) which is containing 1-10 mg pure drug and 0.01 M NaTPB taken in burette was used for titration. The observed conductance reading was taken and corrected conductance i.e. $\Omega^{-1}correct = \Omega^{-1}obs [V1+V2/V1]$. 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 cationic Drugs and Pharmaceutical formulations, with results in close agreement at 95% confidence level with those obtained using spectrophotometric determination method.

Graphical Abstract



Calibration graph of CEF.

Keywords: Cationic Drugs, Conductometric, Determination, Sodium tetra phenyl borate.