Simultaneous determination of N-butylscopolamine and oxazepam in pharmaceutical formulations by first-order digital derivative spectrophotometry

Toral, Maria Inés

Muñoz, Marcelo A.

Orellana, Sandra L.

A simple method has been developed for the simultaneous determination of N-butylscopolamine bromide and oxazepam in pharmaceutical formulations using first-order digital derivative spectrophotometry. Acetonitrile was selected as the solvent in which both compounds showed well-defined bands. Both analytes showed good stability in this solvent when solutions of the analytes were exposed to light and temperatures between 20° and 80°C. The simultaneous determination of both drugs was performed by the zero-crossing method at 226.0 and 257.0 nm for N-butylscopolamine and oxazepam, respectively. The linear range of determination was found to be 2.5 × 10-7 to 8.0 × 10-5 mol/L for N-butylscopolamine and 7.1 × 10-8 to 8.0 × 10-5mol/L for oxazepam. A very good level of repeatability (relative standard deviation) of 0.2% was observed for N-butylscopolamine and oxazepam. The ingredients commonly found in pharmaceutical formulations do not interfere. The proposed method was applied to the determinat