

Abstract

This work was focused on the optimization of separation of oxazepam and lorazepam in high performance liquid chromatography. Diode array detection and mass spectrometric detection using electrospray ionization and electrospray ionization with Jet Stream technology were optimized and compared.

The optimal chromatographic system consisted of a Kinetex C8 100A (75 x 2.1 mm, 2.6 μm) and binary mobile phase of acetonitrile/0.1% formic acid (30/70) (v/v). Under the optimized separation conditions both studied compounds were baseline resolved and eluted within 3 min.

Electrospray ionization with Jet Stream technology provided the lowest values of the limit of detection (LOD) and limit of quantification (LOQ). Limits of detection were ranging from 17 to 32 $\mu\text{g mL}^{-1}$.