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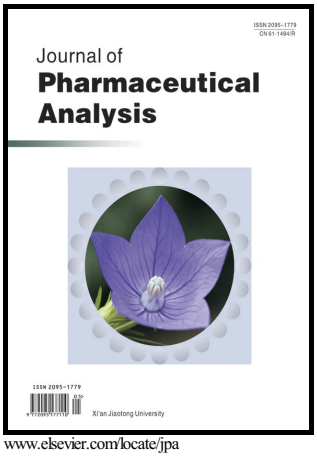

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Analysis of bacitracin and its related substances by liquid chromatography tandem mass spectrometry

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Abstract

A suitable liquid chromatography quadrupole time-of-flight mass spectrometric (LC−Q-TOF−MS) method was developed for separation and characterization of related substances in bacitracin test drug. The separation was performed on LiChrospher RP-18 column using methanol as mobile phase A and 0.2% ammonium acetate buffer solution as mobile phase B in gradient elution. A total of 12 related substances were detected through high resolution mass spectrometric determination in a positive electrospray ionization mode. They were identified as co-existing active components and degradation products of bacitracin through the analysis and elucidation of both the protonated parents and the product ions of all the related substances and their fragmentation pathways were also proposed.

Keywords: Bacitracin; degradation products; fragmentation pathways; related substances; LC−Q-TOF−MS