

عنوان مقاله:

A novel classification method for determination of Sertraline in pharmaceutical formulation containing different amount of excipients

محل انتشار:

فصلنامه تحقیقات جاری در داروسازی، دوره 7، شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Attenuate Total Reflectance infrared spectroscopy ATR-IR method is a routine, easy and non-time consuming approach to determine and detect drugs in pharmaceutical samples. In this study, sertraline as a widely used antidepressant drug was mixed with various amounts of tablet matrix excipients (lactose, starch and sodium lauryl sulfate that are common excipients in tablet formulations) and the amount of sertraline was assessed by ATR-IR method. At first, ATR-IR spectra data converted to normal matrix by SNV preprocessing approach and then, related signals were assessed by chemometrics model (Partial least squares discriminant analysis (PLS-DA)) with different variables. PLS-DA is able to analyze highly noisy ATR-IR data and can provide a variety of useful and accurate statistics and predictions. The model was able to determine sertraline amount in precise approach with zero error percentage when the number of the components was 7. As a result, the method was able to predict the sertraline amount and can be used in other applications of drug quantitation.

کلمات کلیدی:

ATR-IR, Chemometrics, PLSDA, Sertraline

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