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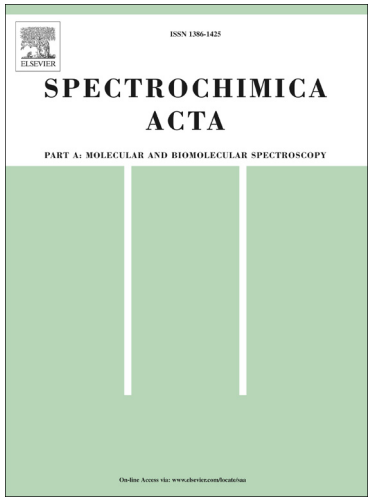

Comparative study between derivative spectrophotometry and multivariate calibration as analytical tools applied for the simultaneous quantitation of Amlodipine, Valsartan and Hydrochlorothiazide

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Comparative study between derivative spectrophotometry and multivariate calibration as analytical tools applied for the simultaneous quantitation of Amlodipine, Valsartan and Hydrochlorothiazide

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Abstract

Four simple, accurate and specific methods were developed and validated for the simultaneous estimation of Amlodipine (AML), Valsartan (VAL) and Hydrochlorothiazide (HCT) in commercial tablets. The derivative spectrophotometric methods include Derivative Ratio Zero Crossing (DRZC) and Double Divisor Ratio Spectra-Derivative Spectrophotometry (DDRS-DS) methods, while the multivariate calibrations used are Principal Component Regression (PCR) and Partial Least Squares (PLS). The proposed methods were applied successfully in the determination of the drugs in laboratory-prepared mixtures and in commercial pharmaceutical preparations. The validity of the proposed methods was assessed using the standard addition technique. The linearity of the proposed methods is investigated in the range of 2-32, 4-44 and 2-20 μg/mL for AML, VAL and HCT, respectively.

KeyWords: PLS; PCR; double divisor; Amlodipine; Valsartan; Hydrochlorothiazide.

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