

Spectrophotometric Methods for Simultaneous Determination of Binary Mixture of Amlodipine Besylate and Atenolol Based on Dual Wavelength

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Abstract : Four, accurate, precise, and sensitive spectrophotometric methods are developed for the simultaneous determination of a binary mixture containing amlodipine besylate (AM) and atenolol (AT) where AM is determined at its λ_{max} 360 nm (0D), while atenolol can be determined by different methods. Method (A) is absorption factor (AFM). Method (B) is the new Ratio Difference method(RD) which measures the difference in amplitudes between 210 and 226 nm of ratio spectrum., Method (C) is novel constant center spectrophotometric method (CC) Method (D) is mean centering of the ratio spectra (MCR) at 284 nm. The calibration curve is linear over the concentration range of 10-80 and 4-40 $\mu\text{g/ml}$ for AM and AT, respectively. These methods are tested by analyzing synthetic mixtures of the cited drugs and they are applied to their commercial pharmaceutical preparation. The validity of results was assessed by applying standard addition technique. The results obtained were found to agree statistically with those obtained by a reported method, showing no significant difference with respect to accuracy and precision.

Keywords : amlodipine, atenolol, absorption factor, constant center, mean centering, ratio difference

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