Simultaneous determination of some cholesterol-lowering drugs in their binary mixture by novel spectrophotometric methods

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Abstract

Four simple, specific, accurate and precise spectrophotometric methods manipulating ratio spectra were developed and validated for simultaneous determination of simvastatin (SM) and ezetimibe (EZ) namely; extended ratio subtraction (EXRSM), simultaneous ratio subtraction (SRSM), ratio difference (RDSM) and absorption factor (AFM). The proposed spectrophotometric procedures do not require any preliminary separation step. The accuracy, precision and linearity ranges of the proposed methods were determined, and the methods were validated and the specificity was assessed by analyzing synthetic mixtures containing the cited drugs. The four methods were applied for the determination of the cited drugs in tablets and the obtained results were statistically compared with each other and with those of a reported HPLC method. The comparison showed that there is no significant difference between the proposed methods and the reported method regarding both accuracy and precision.

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