

Spectrophotometric Determination For the Binary Mixture of Clotrimazole and Dexamethasone in Pharmaceutical Dosage Form

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Abstract

The mixture of clotrimazole (CLT) and dexamethasone (DA) can be analyzed by resolution of each component separately. First, CLT which has no absorption maxima in its zero order spectrum can be obtained by spectrum subtraction, followed by; the novel mathematical technique two base points or Area under curve to get the concentration, while its resolution to the D1 spectrum by either dual wave length as a resolution technique or derivative subtraction. Second, DA can be obtained in its D^o spectrum by constant multiplication coupled ratio subtraction, or its D1 spectrum using constant multiplication coupled derivative subtraction. Direct determination of the less extended CLT from the mixture without resolution is conducted by ratio difference, derivative ratio and induced dual wave length. Simultaneous determination of both components is conducted by Absorbance subtraction and Amplitude modulation. The specificity of the developed methods is checked by analyzing laboratory prepared mixtures and is successfully applied for the analysis of their market formulation. Validation steps are conducted as listed in ICH guidelines and statistically compared to the official methods.

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