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Simultaneous Determination of Amoxicillin and Clavulanate Potassium in Dry Syrup by Derivative Spectrophotometry

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Abstract: The aim of this study was to test the validation of derivative spectrophotometric method in simultaneous determination the content amoxicillin and clavulanate potassium in dry syrup by derivative spectrophotometric method with zero crossing technique, in buffer phosphate pH 4,4-methanol (91:9) mixture.

The research results were obtained the amoxicillin and clavulanate potassium content at the second derivative with $\Delta\lambda$ = 2 nm at the wavelength of 239.00 nm and 313.20 nm respectively. The samples Clavamox® dry syrup were (102.73 ± 8.95)% and Claneksi® (103.52 ± 8.88)% and clavulanate potassium content of the sample Clavamox® in dry syrup (97.64 ± 4.12)% and Claneksi® (95.75 ± 5.64)%. Based on the results of analysis determine the sample content of amoxicillin and clavulanate potassium compound in dry syrup supply amoxicillin fulfilled the requirements in *United States Pharmacopoeia* (USP) 30th edition (2007) and clavulanate potassium fulfilled the requirement in *United States Pharmacopoeia* (USP) 30th edition (2007). The results of validation test on the Clavamox® dry syrup, the percent recovery for the amoxicillin is 100.43%, relative standard deviation RSD = 0.98% and for clavulanate potassium, the percent recovery = 100.58%, RSD = 1.46%.

Keywords: Amoxicillin; Clavulanate Potassium; Derivative Spectrophotometry; Zero Crossing; Second Derivat; Dry syrup; Validation.

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