# Spectrophotometric Determination of Telmisartan and Hydrochlorothiazide in Commercial Tablets Using Bivariate and Mulitvariate Methds Based on Linear Regression Equations

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**SUMMARY**. In this study, bivariate and multivariate calibration (BC and MC) methods were proposed for the spectrophotometric quantitative determination of the telmisartan (TEL) and hydrochlorothiazide (HCT) commercial tablets, respectively. Both drug substances was analyzed by the proposed BC and MC tools without preliminary procedure and with low cost. Regression equations in the concentration range of 2.0-23.0 µg/mL for TEL and 3.0-17.0 µg/mL for HCT were obtained at 25 wavelength corresponding to the critical wavelength points (minimum, maximum and shoulder points). For the BC implementation, two wavelength points, which have the highest sensitivity values were computed from the slopes of linear regression equations and then TEL and HCT were determined by using two linear regression equation system. In the analysis of drugs with MC approach, the matric calculations using 25 linear regression equations was used to determine TEL and HCT in samples. Both BC and MC methods were applied to the simultaneous determination of TEL and HCT in synthetic mixtures and pharmaceutical tablets. The validity of the proposed BC and MC models were performed by analyzing validation samples. The applied BC and MC were statistically compared with second order derivative spectrophotometry.

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