

Spectrophotometric Determination Tetracycline.HCl in Pharmaceutical Preparation by oxidative coupling

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ABSTRACT

The Development of a spectral method for the estimation of micrograms of tetracycline hydrochloride in oxidative coupling with 4,2-di nitro phenylhydrazine with the presence of NaIO_4 as an oxidative agent in the basal medium to form a reddish yield in ethanol and give the highest absorption at wavelength 528 nm. The method obeyed the berr's Law in a range of concentration ranging from 2 to $\mu\text{g}.\text{ml}^{-1}$, and the molar absorption value was $10^{-4} \times 1.8851 \text{ L}.\text{mol}^{-1}.\text{cm}^{-1}$, the Sandal index value is $0.0255 \mu\text{g}.\text{cm}^{-2}$, the detection unit $0.0749 \mu\text{g}.\text{ml}^{-1}$, the correlation coefficient value 0.9892, and the relative standard deviation of the method does not exceed 1.20%. The method was applied successfully to the pharmaceuticals and in the direct and standard methods, and the reaction ranged between 99-102%.

Key words: tetracycline hydrochloride, ultraviolet and optical spectroscopy.