

# **FIRST ORDER DERIVATIVE SPECTROPHOTOMETRIC METHOD FOR SIMULTANEOUS ESTIMATION OF METRONIDAZOLE AND NORFLOXACIN IN THEIR COMBINED DOSAGE FORM**

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## **ABSTRACT**

Derivative spectroscopy offers a useful approach for the analysis of drugs in mixtures. In this study First order derivative spectrophotometric method was developed for the simultaneous determination of Metronidazole (MET) and Norfloxacin (NOR) in bulk and combined tablet dosage form. The derivative spectra for both the methods were obtained in methanol and the linearity was obtained in the concentration range of 1.25 – 6.25 µg/ml for Metronidazole and 1.0 - 5.0µg/ml for Norfloxacin. The zero order spectra are obtained at wavelengths 311nm for Metronidazole and 283nm for Norfloxacin. First order derivative spectrophotometric method was based on the determination of both the drugs at their respective zero crossing point (ZCP).

The determinations were made at 216 nm (ZCP of Norfloxacin) for Metronidazole and 209 nm (ZCP of Metronidazole) for Norfloxacin. The mean recovery was 99.8 and 100.7 for Metronidazole and Norfloxacin respectively. The method was found to be simple, sensitive, accurate and precise and was applicable for the simultaneous determination of Metronidazole and Norfloxacin in pharmaceutical tablet dosage form. The results of analysis have been validated statistically and by recovery studies.

**KEYWORDS:** Metronidazole, Norfloxacin, Zero Order Spectra, First Order Spectra, Zero Crossing Point Validation