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## SPECTROPHOTOMETRIC DETERMINATION OF MOXIFLOXACIN AND METHYLDOPA IN PHARMACEUTICAL FORMULATIONS USING OXIDATIVE COUPLING REACTIONS

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Two simple, rapid and sensitive spectrophotometric methods by the application of oxidative coupling reactions for the determination of moxifloxacin (MFLX) and methyl dopa (MD) in either pure form or in its pharmaceutical formulations have been carried out. The first method involves the reaction of MFLX with 4-aminophenazone (4-AP) in the presence of KIO<sub>4</sub> to give red colored product having maximum absorption at 530 nm and the colored species is stable for 10 min. The second method describes the reaction of MD with 3-methyl-2-benzothiazolinone (MBTH) in the presence of potassium ferri-cyanide and in Na<sub>2</sub>CO<sub>3</sub> pH 10.4 medium to yield an orange product which has a maximum absorption at 460 nm and is stable for 10 min. Regression analysis of Beer's law plot showed good correlation in the concentration range of 2.65–230 and 1.0–56.0 g mL<sup>-1</sup> for MFLX

and MD, respectively. The detection limit was found to be 1.12 and 0.53 µg mL<sup>-1</sup>, respectively. Molar absorptivity for the above two methods were found to be 2.134×10<sup>3</sup> and 6.331×10<sup>3</sup> L mol<sup>-1</sup> cm<sup>-1</sup>, respectively. All the measurements were carried out at room temperature. These two methods have been successfully applied for MFLX and MD in tablets of pharmaceutical formulations and the results compare favorably with those of official methods. Common excipients used as additives in tablets do not interfere in the proposed method. Both the methods are accurate, precise and highly reproducible, while being simple, cheap and less time consuming and hence can be suitably applied for routine analysis of MFLX and MD in bulk and dosage forms.

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