

PHYSICOCHEMICAL STABILITY OF MOXIFLOXACIN 1 MG/0,2 ML SYRINGES FOR INTRACAMERAL ADMINISTRATION



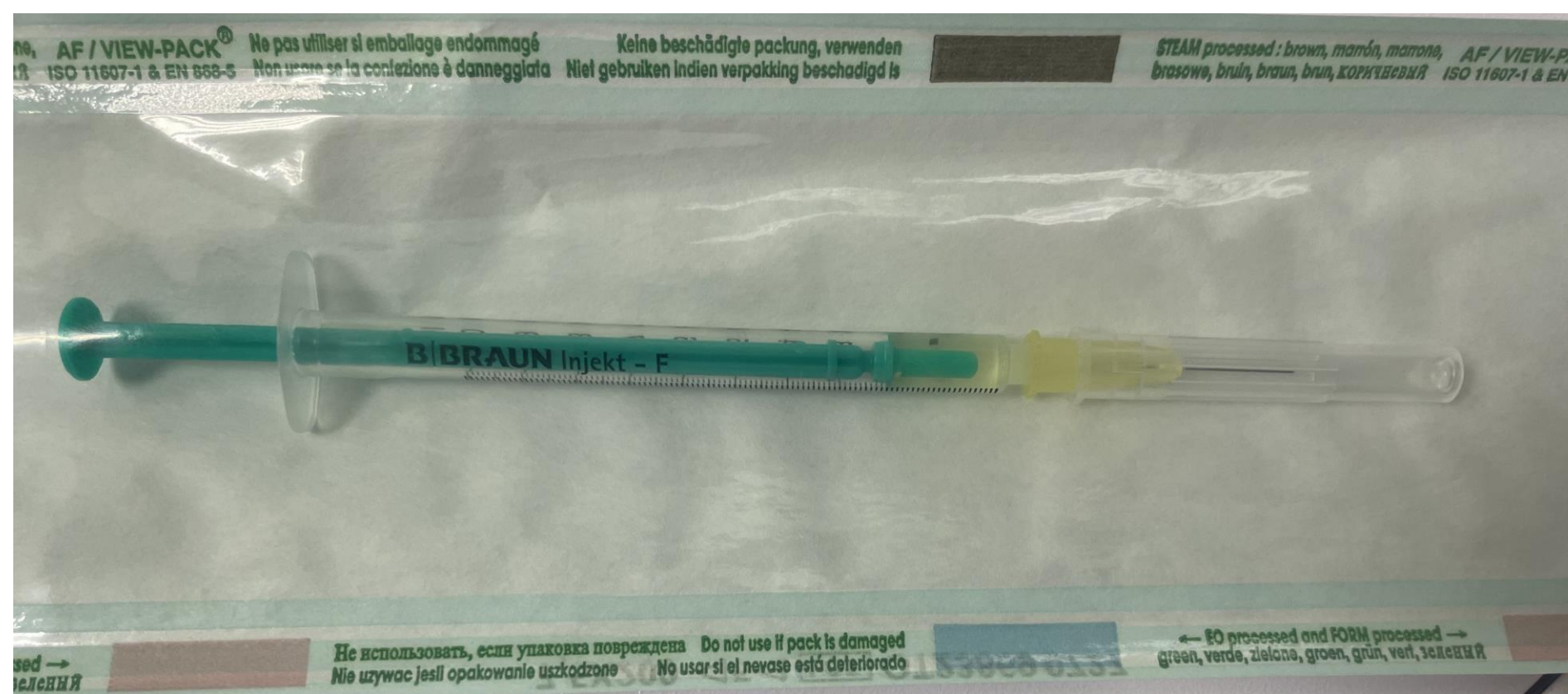
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Keywords: Moxifloxacin; Syringes; Intracameral; Physicochemical stability study

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BACKGROUND AND IMPORTANCE



Moxifloxacin syringes for intracameral injection are a compounding formula prepared in the Pharmacy Department to prevent endophthalmitis in cataract surgeries.

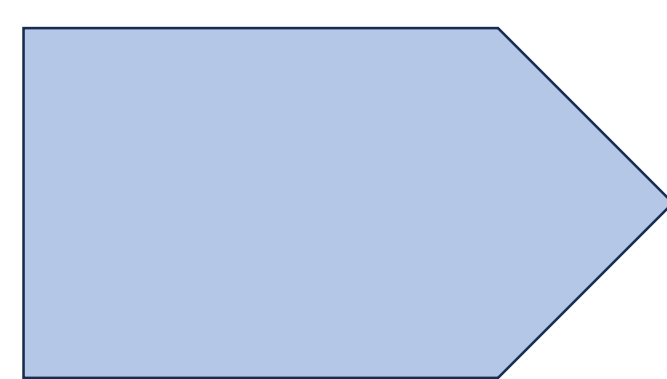


According to this document, this compounded formula would have a **shelf life of 9 days in the refrigerator (2 °C – 8 °C)**. This physicochemical stability study is proposed to improve the efficiency in our Pharmacy Service.

AIM AND OBJETIVES

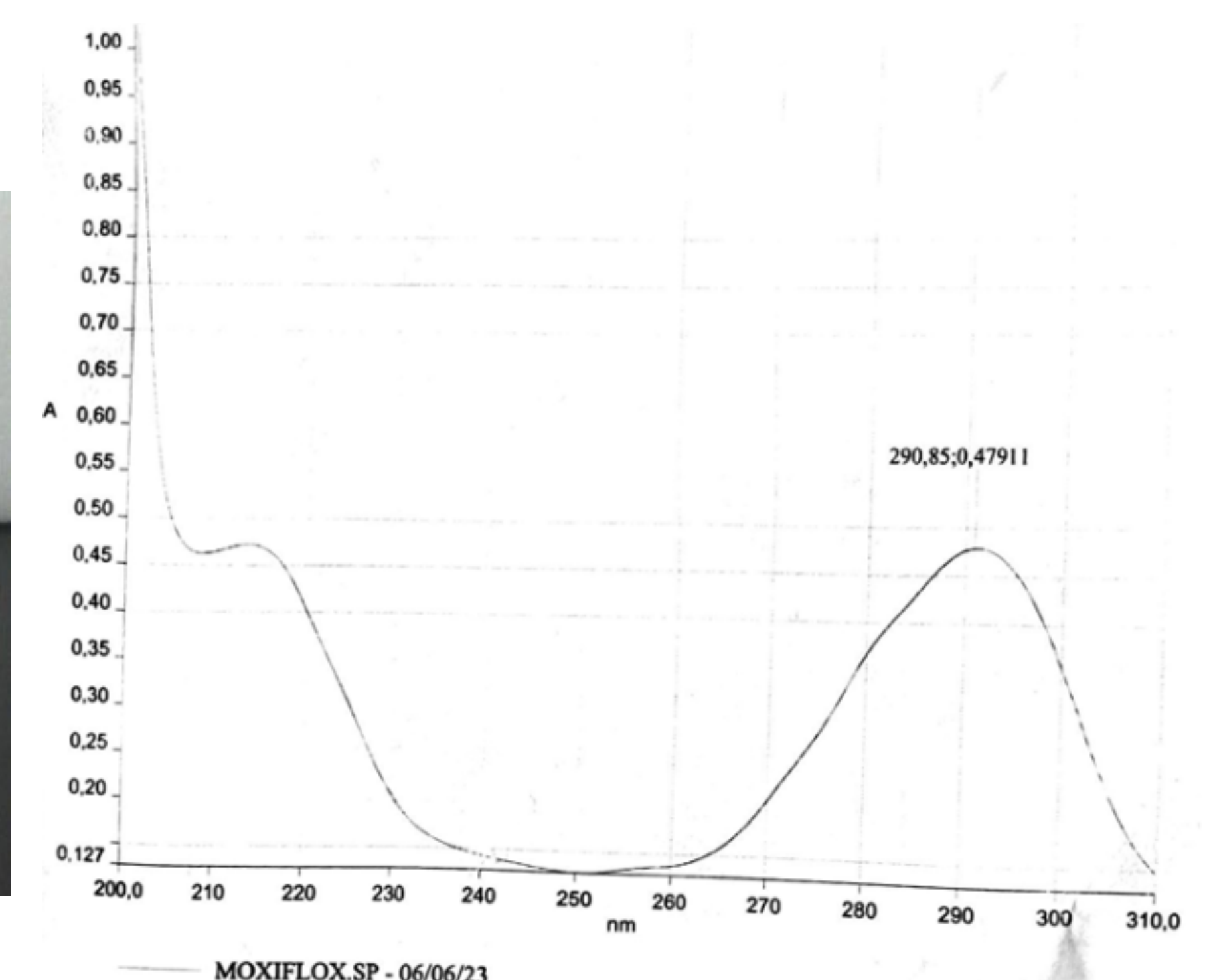
The aim of this study was to characterize the physicochemical stability of intracameral moxifloxacin 1 mg/0,2 ml syringes stored in refrigeration (2 °C – 8 °C) and protected from light for 90 days.

MATERIALS AND METHODS



Three 50 ml batches of moxifloxacin were prepared at different concentrations (**1, 2, 4, 5, and 7 µg/ml**) in a horizontal laminar flow cabinet using water for injection as a solvent, starting from the commercial eye drop Vigamox 5 mg/ml ®.

Concentration measurements of moxifloxacin were carried out on days **1, 3, 7, 15, 22, 30, 60, and 90** using a Perkin Elmer model Lambda 40 UV/visible spectrophotometer at a wavelength of 290 nm (maximum wavelength of moxifloxacin).



RESULTS

Moxifloxacin concentrations remained constant and within the values accepted by the United States Pharmacopeia that ensure its physicochemical stability ($\pm 10\%$).



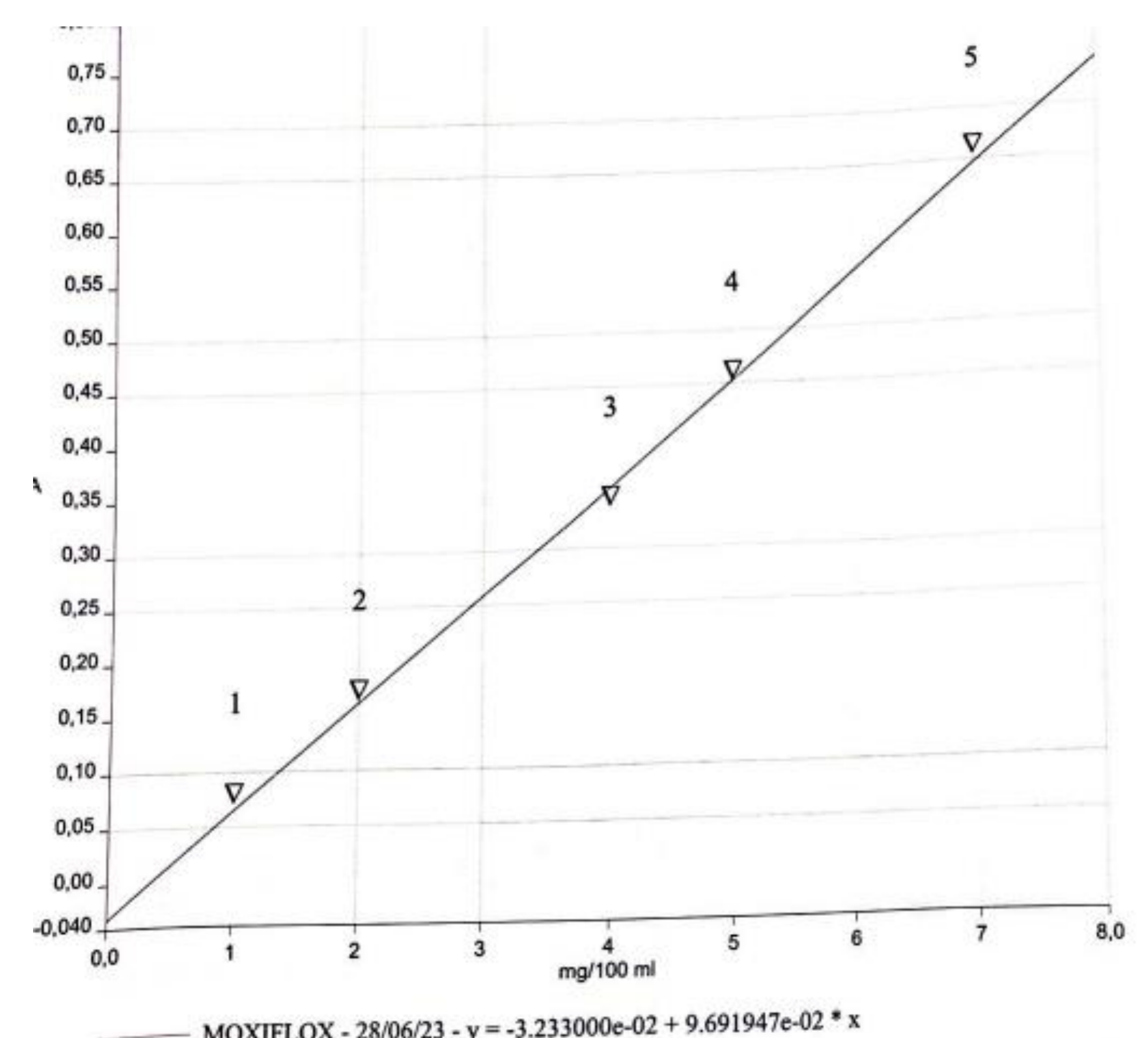
$$\text{Equation: } y = -3.233000e-02 + 9.691947e-02 * x$$

Residual error: 0,011666

Correlation coefficient: 0,999048

(Example of determination on day 15)

Linearity was met in all measurements with a determination coefficient (R^2) > 0.999, indicating that the prepared concentrations of moxifloxacin remained stable over time



CONCLUSION AND RELEVANCE

The formulations of intracameral moxifloxacin 1mg/0,2 ml in water for injection are physicochemically stable at least for three months when stored in the refrigerator (2 °C – 8 °C) and protected from light. Further investigation would be advisable to continue with the study in order to extend their shelf life.