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Simultaneous Spectrophotometric Determination of Piroxicam and Benzyl Alcohol in Gel Forms

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A simple, fast and sensitive spectrophotometric method for the determination of Piroxicam in gel preparations that contain of benzyl alcohol as a preservative has been developed. The procedure is based on the linear relationship between Piroxicam concentration in the range: 1.3×10^{-5}–8.3×10^{-5} mol L^{-1} and the absorbance signal measured at 354.4 nm in the zero--order spectrum and at 308.6 nm in the second-order derivative spectrum. The measurements were performed in ethanol–phosphate buffer mixture (10 : 90) of pH 7.8. The concentration of benzyl alcohol was also determined in the range: 1.2×10^{-3}–5.6×10^{-3} mol L^{-1} in the same solvent at the wavelength of 261.8 nm from the second-order derivative spectra. The results of recovery studies of Piroxicam and benzyl alcohol in synthetic mixtures, as well as the results of their simultaneous determination in gel preparations have confirmed the applicability of the proposed method to the analysis of complex pharmaceutical formulations.