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Quantitative Spot-Test Analysis of Metformin in Pharmaceutical Preparations Using Ultraviolet-Visible Diffuse Reflectance Spectroscopy

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A quantitative spot-test for the determination of metformin in pharmaceutical preparations using diffuse UV-visible reflectance is reported. The procedure is quite simple, involving in the formation of a metformin-nickel(II) complex on a glass filter membrane with a later measurement of the reflectance in the spectrophotometer using an integration sphere. The analytical results obtained with commercial products were statistically compared with those resulting from a method recommended by JP and by USP, where complete agreement was observed. The average RSD is 2.5% and the detection (0.009 mol L^{-1}) and the quantitation (0.03 mol L^{-1}) limits are quite adequate for pharmaceutical analysis.

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