

A Spectrophotometric Method for the Determination of Folic Acid - A Vitamin B9 in Pharmaceutical Dosage Samples

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Abstract : A simple spectrophotometric method for the determination of folic acid in pharmaceutical dosage samples was developed. The method is based on the diazotization reaction of thiourea with sodium nitrite in acidic medium yields diazonium compounds, which is then coupled with folic acid in basic medium yields yellow coloured azo dyes. Beer's Lambert's law is observed in the range 0.5 - 16.2 $\mu\text{g mL}^{-1}$ at a maximum wavelength of 416nm. The molar absorptivity, sandells sensitivity, linear regression equation and detection limit and quantitation limit were found to be $5.695 \times 10^4 \text{ L mol}^{-1} \text{ cm}^{-1}$, $7.752 \times 10^{-3} \mu\text{g cm}^{-2}$, $y = 0.092x - 0.018$, $0.687 \mu\text{g mL}^{-1}$ and $2.083 \mu\text{g mL}^{-1}$. This method successfully determined Folate in Pharmaceutical formulations.

Keywords : folic acid determination, spectrophotometry, diazotization, thiourea, pharmaceutical dosage samples

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