

Stopped-Flow Determination of 6-Alkyl-2-Thiouracils in Drugs Applying Induced Iodine-Azide Reaction

by Jan Kurzawa* and Agnieszka Wiśniewska

*Institute of Chemistry, Poznań University of Technology,
ul. Piotrowo 3, 60-965 Poznań*

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A stopped-flow method for the determination of 6-methyl-2-thiouracil and 6-propyl-2-thiouracil applying induced iodine-azide reaction has been developed. Spectrophotometric detection at 596 nm was applied to monitor the decrease in the absorbance of iodine-starch complex within 10 s. The rate of the absorbance decrease was related to the concentration of thiouracil. Linear calibration range depended on the concentration of iodine and sodium azide in the iodine-azide solution, as well as on the considered analytical signals. Under the optimum reaction conditions both thiouracils could be determined at the concentration ranging from 0.2 ppm to 3 ppm ($1.4\text{--}21 \mu\text{mol L}^{-1}$ and $1.2\text{--}17 \mu\text{mol L}^{-1}$ for 6-methyl- and 6-propyl-2-thiouracil, respectively). Relative standard deviation was below 1%. The developed method was applied to the determination of both compounds in drugs.