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Simple and Rapid Spectrophotometric Method for Determination of Some Aromatic Aldehydes. A Kinetic Study

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Abstract

The condensation reaction of barbituric acid with benzaldehyde and some substituted benzaldehydes in ethanolic medium have been investigated spectrophotometrically at 25–40°C. The reaction proceeded kinetically as a pseudo-first-order reaction. The activation parameters of the reaction were determined and ΔS^* was found to be a linear function of ΔH^* which points to the occurrence of the same mechanism for the tested aromatic benzaldehydes. The rate determining step involves dehydration of the

aldol formation. Based on this reaction, determination of seven aromatic aldehydes in a concentration range of 10^{-6} – 5×10^{-4} M have been proposed.

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