



Kinetic studies of the condensation of aromatic aldehydes with 5-N-benzoylamino-1,3,4-thiadiazole-2-acetonitrile, and their spectrophotometric determination

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[https://doi.org/10.1016/S0026-265X\(00\)00024-2](https://doi.org/10.1016/S0026-265X(00)00024-2)

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Abstract

The condensation reaction of 5-N-benzoylamino-1,3,4-thiadiazole-2-acetonitrile with aromatic aldehydes in acetonitrile, in the presence of piperidine, has been investigated spectrophotometrically at 50–70°C. The reaction follows second order kinetics overall; first order in each of the reactants, and zero order with respect to piperidine. The rate of condensation increases with the presence of electron-withdrawing groups on the aromatic ring of the aldehyde. Based on this reaction, the determination of 13 aromatic aldehydes in a concentration range of 0.106–15.11 µg/ml is proposed.

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