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Spectrophotometric determination of aromatic amines by reaction with *p*-benzoquinone

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Abstract

A comprehensive study is made of the application of the *p*-benzoquinone spectrophotometric technique to the aromatic amines. The technique involves a reaction with excess *p*-benzoquinone; the colored products display maximum absorption at 490–510 nm (varying according to the type of the amine used) and $E_{1\ cm}^{1\%}$ in the range of 90–380. On the basis of an IR investigation, ethyl alcohol has been selected as a suitable solvent medium for aromatic amine determination. Electron-donating groups react faster and give more intense color than do electron-withdrawing groups. Results with an average recovery of 95% and mean standard deviation of 3.4% are obtained with seven aromatic amines.

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