

Kinetic Determination of Citric Acid in Artificial Juice

by D.A. Kostić*, S.S. Mitić and G.Ž. Miletić

*Faculty of Natural Science and Mathematics, Department of Chemistry,
University of Niš, Višegradska 33, YU-18000 Niš, Serbia and Montenegro*

Key words: kinetic method, citric acid, determination

A kinetic spectrophotometric method for the determination of citric acid has been proposed. The method is based on the inhibition effect of hydrogen peroxide on the oxidation of C_6H_5COONa in the presence of Fe(II)-AA (ascorbic acid) complex, which acts as a catalyst. Relative error range was 2.9–6.5% for citric acid concentration 1.40–14.0 $\mu\text{g mL}^{-1}$. Under optimum conditions theoretical detection limit was 0.21 $\mu\text{g mL}^{-1}$. The developed method is simple, inexpensive, efficient, and thus can be recommended for the analysis of large number of samples. The proposed method was applied for to the determination of citric acid in artificial juices.