

Simultaneous determination of o- and p-nitrophenol by first derivative spectrophotometry

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A simple method by first derivative spectrophotometry is proposed for the simultaneous determination of o-nitrophenol and p-nitrophenol. The analytes were separated from samples by liquid-liquid extraction (pH = 7.4) as tetrabutylammonium ion pairs into the 1,2-dichloroethane organic phase and subsequently the extracts were evaluated directly by derivative spectrophotometry. Simultaneous determination of both analytes could be carried out using the zero-crossing and the graphical methods for o-nitrophenol and p-nitrophenol, respectively. The determination ranges were found to be between 0.115 to 3.00 ppm and 0.130 to 3.00 ppm for o-nitrophenol and p-nitrophenol, respectively. The relative standard deviations were in all instances less than 2.0%. The proposed method was applied to the determination of these compounds in fruit juices. A simple method by first derivative spectrophotometry is proposed for the simultaneous determination of o-nitrophenol and p-nitrophenol. The analytes were s