

Methodical aspects of quantitative elemental analysis of organic compounds using automated CHNS-analyzers

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Abstract

In this article the methodical aspects of quantitative elemental analysis of organic compounds on the automatic CHNS-analyzers, combining the method of Dumas-Pregl and gas chromatographic separation of analytic forms elements (N₂, CO₂, H₂O, SO₂) recorded by the thermal conductivity detector are explored. Also there are shown methods of calibration of the thermal conductivity detector, including the traditional way that uses one standard sample and the way that uses three standard samples with different quantitative content determined elements. Besides, attached the methodical approach, which is used in quantitative elemental analysis of organic compounds and their mixtures on the automatic CHNS-analyzers made on local and abroad plants, is based on operative control of calibration characteristics that we get from the thermal conductivity detector (characteristics and results of a standard sample of known composition before and after elemental analysis of unknown compound).

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