Title Monitoring apple flavor by use of quartz microbalances

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Citation Analytical and Bioanalytical Chemistry 372 (5-6): 611-614. 2002.

Keywords Sensors; Electronic nose; Quartz microbalance; Fruit ripening; Aroma component

Abstract

"Electronic noses", i.e. arrays of differently coated quartz microbalances (QMB), have been used for selective detection of, and discrimination between, volatile organic compounds (VOC) formed during the post-harvest ripening of apples. The flavor components to be differentiated are chemically rather similar carbonyl compounds, chiefly aldehydes and esters. Because their relative ratios change during the post-harvest ripening period, appropriately selected sensor-active layers lead to characteristic patterns of the sensor responses which can be analyzed via pattern-recognition methods. This enables qualitative and quantitative identification of individual components whereby the post-harvest ripening of apples and other fruits can be monitored. Different kinds of apple differ in type and concentration of individual carbonyl compounds.