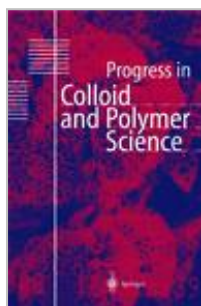




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Monitoring of the aroma of fruits at their surface by luminescence

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Abstract

Spectrofluorimetry has been used to detect in vivo the photoluminescence of native organic volatiles emitted from the surface of various fruits. Luminescence from above the surface of fruits is observed in the visible spectral region and attributed to species in their aroma. Further, the role of different volatiles in the natural aroma emission has been tested by a laser-induced photoluminescence microscope technique with the vapours of some odours. Monitoring the time evolution of luminescence allows us to study the ripening and ageing of the fruits. The ripening and ageing of some fruits is shown to lead to changes in band shape and to an enhancement of the luminescence. The results demonstrate that luminescence spectroscopy of natural aroma emission is a very promising method for studying biochemical changes in fruits, that may be extended to monitoring of aroma evolution in other living systems.

Keywords Luminescence - Volatile compounds - Fluorimetry of aroma emission - Living systems

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