

Analytical studies of fragrant raw materials. A quest for their odor active constituents

Nicolas Baldovini

Institut de Chimie de Nice, Université Côte d'Azur, Faculté des Sciences, 28 avenue Valrose, 06108 Nice, France.

The determination of the most important olfactory contributors of a fragrant natural raw material can be an extremely long and complex task which requires the combination of very efficient analytical techniques. Indeed, the characterization of these components is often difficult since the main contributors are usually strongly potent odorants contained only in trace amounts, and therefore, their identification requires an exhaustive analysis of the whole mixture. Consequently, there is still a lack of accurate knowledge about the main odoriferous constituents for many natural raw materials, and this situation is paradoxical when it concerns materials widely used for their odorant properties in the flavor and fragrance industry.

This presentation will describe several examples of analytical investigations based on Gas Chromatography-Olfactometry (GC-O) and focused on the determination of the main odorant contributors of fragrant raw materials such as *Helichrysum italicum*, Atlas cedarwood, frankincense, and vetiver essential oils. In some cases, the syntheses of some of the key odorants and their analogues permitted to confirm their identification and to propose new ingredients for the perfume industry.