



“Gheorghe Asachi” Technical University of Iasi, Romania



CHEMICAL CHARACTERIZATION OF ODOR ACTIVE VOLATILE ORGANIC COMPOUNDS EMITTED FROM PERFUMES BY GC/MS-O

**Antonella Amenduni¹, Magda Brattoli², Gianluigi de Gennaro^{1,2*},
Federica Massari¹, Jolanda Palmisani¹, Maria Tutino²**

¹Department of Biology, University of Bari, via Orabona 4, 70126 Bari, Italy

²ARPA, Agency for Environmental Protection of Apulia Region, Corso Trieste 27, 70126 Bari, Italy

Abstract

The selection of proper compounds to include in perfumes' formulation is of particular interest for the perfume industry. Essential oils and perfumes are subject to quality control as well as to chemical characterization; therefore, GC/MS-O methodology can be considered a useful tool for research purposes and/or for improving industrial manufacturing processes. In this study, GC/MS-O methodology was applied to a commercial brand perfume and a natural-derived one, both characterized by a floral scent, with the main purpose of recognizing the odor active VOCs responsible of the characteristic and predominant notes. GC/MS-O analysis highlighted that sensory detection can be more efficient than the analytical one. Ocimene, α -Ionone and α -Isomethylionone were the most abundant odor compounds for the commercial-brand perfume, while β -Hydroxyethylbenzene was detected for the natural-derived one. Moreover, organic compounds of concern such as Toluene and Benzyl Alcohol were detected highlighting the need for quality control to reduce human risks for inhalation exposure and allergies.

Key words: human risk, odor compounds, perfume, sensitivity

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* Author to whom all correspondence should be addressed: e-mail: gianluigi.degennaro@uniba.it; Phone: +39 0805443343