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Chemical characterization of *Cistus ladanifer* L. lipophilic fraction

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Cistus ladanifer L. is a shrub native from Mediterranean region, occupying large areas in the forest and uncultivated lands. *Cistus ladanifer* yields an oleoresin, known as labdanum. In addition to labdanum, other products of *C. ladanifer* as essential oils and hydrolates have been used in cosmetics and hygiene products [1]. Moreover, this shrub can be integrated in the ruminant natural feed, or as a source of bioactive compounds for diets. Although several studies have focused on the chemical composition of essential oil [2] and labdanum exudate [1] from *C. ladanifer*, a detailed analysis of the lipophilic fraction from its distinct morphological parts is yet lacking. Thus, this study aims at characterizing the lipophilic fraction of *C. ladanifer* leaves, stems, buds, flowers and seed heads. Samples of *C. ladanifer* plants with 2-3 years old were harvested in Baixo Alentejo, Portugal. The lipophilic fraction was obtained by Soxhlet extraction with dichloromethane and analyzed by GC-MS. Labdanum-type diterpenes represented the major lipophilic family of *C. ladanifer* leaves (Fig. 1), stems, buds and flowers. On the other hand, seed heads presented fatty acids as dominant lipophilic compounds. Smaller amounts of aromatic compounds, long chain aliphatic alcohols, tocopherols and sterols were also detected (Fig. 1). In general, these insights can potentially contribute to the valorization of *C. ladanifer*, toward particularly ruminant feed purposes.

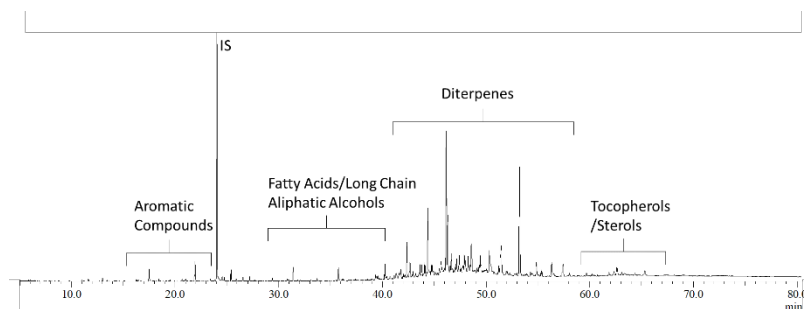


Fig.1. GC-MS chromatogram of trimethylsilylated dichloromethane extract of *C. ladanifer* leaf.

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