CHEMICAL CHARACTERIZATION OF *Lippia dulcis* TREVIR EXTRACT OBTAINED WITH SUPERCRITICAL CO_2

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Lippia dulcis Trevir. (Verbenaceae) is a medicinal plant widely used to treat digestive and respiratory disorders [1]. It's a perennial and aromatic herb, whose leaves and flowers are striking for having an intensely sweet taste due to the presence of hernandulcin, a sesquiterpenol compound, which has been found that is 1500 times sweeter than sucrose and undergoes thermal decomposition at 413 K [2]. In this research the extract was obtained using supercritical CO_2 extraction, from the aerial parts of *L. dulcis* grown in the Research Center of Excellence CENIVAM; chemical characterization was performed by GC-MS, and the concentration of hernandulcin was determined using HPLC-DAD. The CO_2 extraction was carried out at a pressure of 30 MPa, 40 °C and 40 g/min flow of CO_2. The hernandulcin previously isolated and characterized, was used as a reference standard for quantification by HPLC-DAD. The extraction yield data from *L. dulcis* were taken at 60, 120, 180 and 140 min. Based on these results the graph for the species yield versus time of extraction was constructed. The total accumulated yield was 1.4 ± 0.20%. The major components of the extract, identified by GC-MS were α-bisabolol, δ-cadinene, *trans*-β-caryophyllene, bicyclogermacrene, α-copaene and thermal decomposition products of hernandulcin, 6-methyl-5-hepten-2-one and 3-methyl-2-cyclohexen-1-one. Through HPLC-DAD analysis, it was determined that the amount of hernandulcin present in the extract was 25.6 ± 0.5% (0.66 mg hernandulcin/g of dried plant).

Keywords: *Lippia dulcis*; hernandulcin, LC-DAD, GC-MS.

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