



CHEMICAL CHARACTERIZATION OF ESSENTIAL OIL OF GOBERNADORA (*Larrea tridentata*), OBTAINED BY HYDRODISTILLATION

(Caracterización química del aceite esencial de Gobernadora (*Larrea tridentata*), obtenido por hidrodestilación)

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Área del Conocimiento: Química de Productos Naturales.

ABSTRACT

Larrea tridentata, also known as “gobernadora” or “hediondilla”, is a native plant to North America and it is distributed abundantly in the desert areas of northern Mexico and southwestern United States. Since ancient times, this plant has been used in Mexico as an herbal remedy for its healing and medicinal properties, which are mainly attributed to the biological activity of secondary metabolites present in extracts and essential oils. In this work, we evaluated the physicochemical properties and volatile composition of the essential oil extracted by hydrodistillation from dried leaves of *Larrea tridentata* in flowering stage, accord to the AFNOR regulation. The essential oil yield was 0.15% from plant material with a moisture content of 5%. Ninety six components (88.3% of total) were tentatively identified by GC-MS. The most abundant compounds were (E, E)-farnesyl acetate (9.5%), alpha-eudesmol (5.7%) and beta-eudesmol (5.5%). Among its physicochemical parameters, relative density at 25°C was 0.9665 and 1.4711 for refractive index. The characterization of this essential oil has revealed a high complexity, with a large number of volatile compounds, mainly monoterpenes and sesquiterpenes which are related with antiinflammatory and antimicrobial activities.

Keywords: *Larrea tridentata*; essential oil; hydrodistillation; gobernadora.