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## GC-MS analysis of bioactive compounds in methanolic extract of *Leucas lavandulaefolia* Rees. - A potential folklore medicinal plant

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**Abstract**

The present study, the bioactive compounds of *Leucas lavandulaefolia* whole plant extract with methyl alcohol was analyzed by using Gas Chromatographic Mass Spectroscopy (GC-MS). GC-MS analysis of *Leucas lavandulaefolia* whole plant extract revealed the existence of major peaks presented in methanol were Sym- Tetramethyldimethoxydisiloxane (R.T: 2.60); Spiro (4,5) decan-7-one (R.T: 15.55); Hexadecanoic acid (R.T:18.94); 9,12,15-Octadecatrienoic acid (R.T: 20.68); Cyclopropanoic acid (R.T: 21.26); n- Nonacosane (R.T: 27.18); Hexacosane (R.T:28.55).

**Keywords:** GC-MS analysis, Bioactive compounds, *Leucas lavandulaefolia*, Methanol extract.

**1. Introduction**

India has diverse cultural traditions with various useful traditional medicinal aromatic plants, which have been used by the people from early Vedic period. These plants have bioactive compounds. *Leucas lavandulaefolia* is a potential folklore medicinal plant used by the tribes of Paderu forest area.

**2. Materials and Methods****2.1 Plant material**

The fresh plant of *Leucas lavandulaefolia* of Lamiaceae family were from Paderu forest division in Visakhapatnam district of Andhra Pradesh, India, and deposited in Herbarium Dept. of Botany, Osmania University, Hyderabad.

**2.2 Preparation of extract**

Five hundred grams of course powder shade dried of whole plant of *Leucas lavandulaefolia* was extracted successively with methanol in soxhlet extractor for 72 hours. Dark green residues were obtained after concentrating the extract under reduced pressure. The obtained extract was stored in desicator for GC-MS for analysis of different compounds.

**2.3 Gas Chromatographic Mass Spectroscopy (GC-MS) analysis**

GC-MS analyses of methanol extract were performed using a Shimadzu QP2010 Gas-Chromatography–Mass spectroscopy. It employed a fused silica column packed with Elite -5 ms [5% Diphenyl 95% Dimethyl poly siloxane, 30 mm × 0.25 mm × 0.25 μm df] and the components were separated using helium as carrier gas at a constant flow of 1ml / min. The 2 μl sample extract injected in to the instrument. It was detected by the turbo gold mass detector with aid of Turbo mass 5.2 software. During the GC Process the oven was maintained at temperature of 110 °C with 2 min holding. The injector temperature was set at 250 °C. The inlet line temperature was 200 °C and source temperature was 200 °C. Mass spectra were taken at 70 eV, a scan period of 0.5 S and fragment from 45 - 450 Da. The MS detection was completed in 35 min. Interpretation on mass spectrum GC-MS was conducted using the database of National Institute standard and technology (NIST and WILEY) having more than 62,000 patterns. The spectrum of unknown components stored in the NIST and WILEY library [1].

**3. Results**

The bioactive compounds in methanol extract of *Leucas lavandulaefolia* whole plant by GC-MS report (Figure 1). The GC-MS analysis revealed the major constituents as Sym-Tetramethyldimethoxydisiloxane (R.T: 2.60); Spiro (4,5) decan-7-one (R.T: 15.55);

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