

CHEMICAL COMPOSITION OF EUCALYPTUS LEAVE

Renu Srivastav, Dr. Vandna Pathak and Prof. I. P. Tripathi

Mahatma Gandhi Chittrakoot Gramodaya Vishvavidyalaya Satna (M.P.).

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*Corresponding Author

Renu Srivastav

Mahatma Gandhi Chittrakoot

Gramodaya Vishvavidyalaya

Satna (M.P.).

ABSTRACT

Eucalyptus is a medicinal tree. In present study we studied about eucalyptus leaf chemical composition by GC-MS. In Present study we found that Eucalyptus leaf contain hexadecanoic acid methyl ester and octadecanoic acid as a major component.

INTRODUCTION

Eucalyptus is a medicinal tree belongs to family myrtaceae. More than 700 species belong to this genus. Eucalyptus is mostly used for medicinal purpose in all over world. These species are survived in all season if its summer or -7°C cold. Eucalyptus found in South China, Pakistan and India. Height of *eucalyptus teriticornis* is approx 30-45 mtr essential oil of eucalyptus is found by distillation of leaves which is very useful for medicine.^[3]

Eucalyptus is used for controlling the excessive amount of water in field.^[1] Eucalyptus leaf containing polyphenol. Major component of eucalyptus is 1,8 cineol. And other compone. And other componenet are cryptone, α pinene, p cymene, α terpineol, phellandral, cuminol and limonene.^[2,4] Eucalyptus shows antidiabetic activity.^[3] Volatile oil of eucalyptus are used as antioxidant, antibacterial and antiinflammatory. It is also used as a medicine of sickle cell anemia, cancer, hypertension and diabetes.^[1,4] eucalyptus decrease the risk of cardiac vascular and chronic disease.

METHOD

GC-MS analysis of the sample^[5]

GC-MS of these was carried out by the following method. GC-MS analysis were performed using a perkin-elmer GC clauses 500 system and gas chromatography interfaced to a mass spectrometer equipped with a elite-1, fused silica capillary column. For GC-MS detection, an electron ionization system with ionizing energy of 70 eV was used. Helium gas was used as the carrier at constant flow rate 1ml / min and injection volume 1 μ l was employed injector temperature 250 $^{\circ}\text{C}$; ion- source temperature 280 $^{\circ}\text{C}$. The oven temperature was programmed from 110 $^{\circ}\text{C}$ with an increasing of 10 $^{\circ}\text{C}/\text{min}$ to 280 $^{\circ}\text{C}$, ending in a 9 min

isothermal at 280 $^{\circ}\text{C}$. Mass spectrometer were taken at 70 eV; a scan interval of 0.5 second. The relative percent amount of each component was calculated by comparing its average peak area to the total areas, software adopted to handle mass spectra and chromatograms was a turbo mass.

3.11.1 Identification of compound

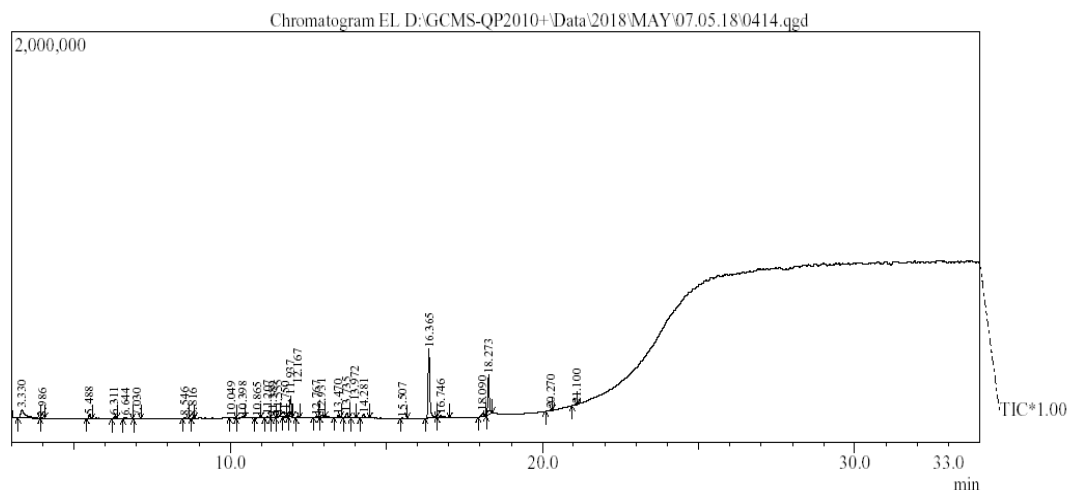
Identification of mass spectrum of GC-MS was conducted using the database of National Institute of Standard and Technology having more than 62000 patterns. The spectrum of the known component stored in the NIST library. The name, molecular weight and structure of the component of the test material was ascertained.

3.11.2 Preparation of stock solution

The extract were (1mg/ml) reconstituted in methanol. Extract 1 μ l were injected for GC-MS analysis.

3.11.3 GC-MS analysis

1 μ l sample were injected for GC-MS and the Rf value of the band were recorded at different temperature and frequency.

RESULT**Eucalyptus leaf**

Serial no.	Retention time	Area percent	Compound
1	3.330	11.81	Sulfuric acid, methyl ester
2	5.488	1.47	Eucalyptol
4	6.644	1.43	Levo glucosenone
5	11.937	8.77	Butylated hydroxytoluene
7	13.470	1.06	2-naphtheline methanol
8	14.281	2.81	Methyl tetradecanoate
9	16.365	35.89	Hexadecanoic acid, methyl ester
10	16.746	2.11	9,9-dimethoxybicyclo(3,3,1)nona-2,4-dione
12	18.273	19.61	Octadecanoic acid, methyl ester

Above table show the presence of many chemical constituent but the major compound are hexadecanoic acid methylester and octadecanoic acid and eucalyptol.

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