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(RESEARCH ARTICLE)

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Qualitative and Quantitative Analysis of Kaiyanthylam

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Abstract

Thylams/Tailas are important group of formulations used by siddha physcians to treat various types of diseases. Siddha system having an effective treatment and management in respiratory disease. Especially in productive cough(*saliyai thuppa seigindra irumal).*Productive cough is one of the most common symptoms of respiratory diseases. Another name for "Cough" is "tussis", the voluntary or involuntary act which clears the throat and breathing passage of foreign particles, microbes, irritants, fluids and mucus is nothing but cough . In the siddha system KaiyanThylam is wonderful remedy for productive cough mentioned in siddha literature Theraiyar Thaila Varga Surukkam. The formulation is subjected to validate the components of KaiyanThylam which is effective remedy for productive cough as mentioned in siddha literature Theraiyar Thaila Varga Surukkam. .Qualitative and quantitative analysis of sample was done in laboratory by ,GCMS And Physico Chemical Analysis methods. The result obtained from GCMS analysis indicates the presence of components like molecules such as 4- hydroxyl -3-methoxybenzyl alcohol, bicycle heptan -2- one , 4-nonanone-8- methyl,eugenol , homeland , 7-octadecane has been identified. Above one of the identified molecule7-octadecane is an alkane hydrocarbon. It is generally a non-narcotic oral antitussive drug used to suppress coughing.Then Humulen has the potential to promote as an anti-inflammatory, to treat allergies, and as a target to reduce tumor growth.Humulen is one of the natural product found in panax ginseng. It has been used to strengthen the immune system and improving overall health .Then another one molecule of Bicyclo-hepton-one also known as Norbornane is an organic compound and a saturated hydro carbon used in medicine to make propellants for inhalers . Another identified molecule Eugenol has anti-inflammatory, anti-asthmatic,anti-oxidant, actions. From this study it is clear that the QUALITATIVE & QUANTITATIVE analysis shows The presence of certain mineral elements which would be helpful in effective management of productive cough.

Keywords: 7-Octadecane; Siddha; GCMS; Kaiyan Thylam; Productive cough

1. Introduction

Siddha is one of the traditional Medical Science which describes lifestyle methods for living healthy life. Fundamental principles of Siddha include theories of five elements (Panchabootham) and 3 humeral forces (Mukkutram). The eight methods of examination (Envagai Thervugal) is used to determine diagnosis.The siddha literature theraiyar thaila varga surukkam have quoted kaiyanthylam for productive cough.

1.1. Background

The siddha system of medicine is an unique medical philosophy originated from south India. A wide variety of respiratory disease have been explained in siddha literature. Siddha system having an effective treatment and

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management in respiratory disease. Especially in productive cough(saliyai thuppa seigindra irumal).Productive cough is one of the most common symptoms in respiratory diseases. In the siddha system Kaiyan thylam is wonderful remedy for productive cough mentioned in siddha literature Theraiyar Thaila Varga Surukkam. This study is aimed at validating components of KaiyanThylam as the effective remedy for productive cough that mentioned in siddha literature.

1.2. Modern aspects

A cough is your body's way of protecting your lungs. Sometimes when you cough , you can bring up mucus also called phlegm or sputum. When that happens we call it as wet or productive cough

1.3. Conditions of productive cough

Cold ,Flu ,Acute bronchitis , pneumonia , postnasal drip , Copd, bronchectasis, cystic fibrosis.

1.4. Siddha aspects

There are many types of kasarogam mentioned in the siddha literature .

In Theraiyar thyla varga surukkam the treatment for kaasa rogam is mentioned as,

தேகரா சச்சுரதந் தில்லியநேர் நேர்கூட்டிப்

பாகமுறக் காய்ச்சிப் பருகுவார் – காகமுணுங்

காசத்தைக் காணாரக் காசமுற்றா ரிப்பிருங்க

ராசத்தைக் காணார் நவில்.....522.

2. Materials and Methods

Table 1 Ingredients of kaiyanthylam

S. No.	Name of drug	Tamil Name	Botanical Name	Parts used	Quantity
1.	Eclipta alba	Karisalankanni	Eclipta alba	Whole plant	1 litre juice
2.	Gingelly oil	Nallennai	Sesamumindicum	Oil	1 litre oil

2.1. Karisalankanni (Eclipta)

Taxonomic Description

Domain : Eukaryota
Kingdom: plantae
Order:Asterales
Family : Asteraceae
Genus : Eclipta
Species: E.alba

2.2. Phytoconstituents

Coumestants,Derivaties sterol, polypeptides, Triterpines, polyacetylenes,Stigma sterol, sterols, letolin

2.3. Therapeutic actions

Haepatoprotective,Antioxidant,Antihyperglycemic,Immuomodulatory,cholagogue,tonic,Alterative,Emetic,Purgative,De obstruent

2.4. NUTRITIONAL AND MEDICINAL USES OF ECLIPTA

Eclipta alba is small branched annual herbaceous plant with a long history of trational medicines uses in many countries especially in tropical and subtropical regions. the herb has been known for its curative properties and has been utilized as anti mytotoxic analgesic, antibacterial ,anti hepatotoxic, antihaemorrhagic, anti hyperglycemic antioxidant, immuno modulatory, properties and it is considered as a good rejuvenator too. Recent studies showed an antivenum property and corrosion pickling inhibitor action on mild steel in hydrochloric acid. A wide range of chemical compounds including coumestants ,alkaloids ,thiopenes, flavonoids have been isolated from this species. Extracts and metabolites from this plant have been known to possess pharmacological properties. This contribution provides an comprehensive review on ethno medicinal uses, chemical composition, and the pharmacological profile as medicinal plants.

Figure 1 Nutritional and medicinal uses of eclipta

2.5. Gingelly oil (sesamumindicum)

Taxonomic Description

- Domain: Eukaryote
- Order: Lamiales
- Family: pedaliaceae
- Genus: sesamum
- Species: sesamum indicum

2.6. Phytoconstituents

Tocopherol , sesamin , sesamolin , sesamolinol, sesangolin , sesamol .

2.7. Therapeutic actions

Anti-nociceptive, Anti-coagulant, Anti-cancer, Anti-oxidant, Anti-inflammatory, Anti-aging ,Demulcent ,Emollient.

2.8. Nutritional and medicinal uses of sesame

Sesame seeds have been grown in tropical regions throughout the world since prehistoric times. sesame seed ,a rich source of protein and is one of the first crops processed for oil production. Its non-culinary application includes it as an ingredient in soap, cosmetics, lubricants and medicine. sesame seeds also contain two unique substances. sesamin and

sesamolin which are known to have a cholesterol lowering effect in humans and to prevent high blood pressure. both of these were also reported to increase the hepatic mitochondrial and the peroxisomal fatty acid oxidation rate in experimental animals .cephalin ,a phospholipid from sesame seed has been reported to possess hemostatic activity. The oil has wide medical and pharmaceutical applications. It is mildly laxative, emollient and demulcent. the seeds and fresh leaves may be used as a poultice. the antibacterial activity of seeds against staphylococcus and streptococcus as well as common skin fungi, such as athletes foot fungus has also been well recognized. the oils also known to maintain high density lipoprotein cholesterol(HDL) and lower low density lipoprotein cholesterol(LDL).refined sesame oil is rich with antioxidant components like lignans allowing for greater shelf-life of foods plus improving their flavor and taste. In addition to it is used as an antioxidant, sesame oil contains a large amount of linoleate in triglyceride form that selectively inhibit malignant melanoma growth.

Aim

The aim of the study is to validate the components present in kaiyanthylam.

Objective

- Primary

  To validate the components of kaiyanthylam.

- Secondary

  To explore the reason why kaiyanthylam is effective for productive cough.

2.9. Study methodology

Study design

Analytical study

Study place

- Gunapadam laboratory Siddha Medical College,Palayamkottai.
- Reputed Lab NABL accredited Laboratory.

Sample

Kaiyan thylam

Study period

4 month.

2.10. Authentication of raw drugs

Plant origin drug were identified and authenticated by the Experts in PG Gunapadam Department, Government Siddha Medical College, Palayamkottai.

2.11. Procedure

The whole plant of eclipta alba was collected,cleaned and its juice is extracted and then the juice is mixed with equal quantity of gingelly oil and boiled well until the confection in the oil converted into the waxy stage (mezhugu patham)this medicated oil is used for internal administration in the dose of ½ to 1 teaspoonful for management of productive cough.

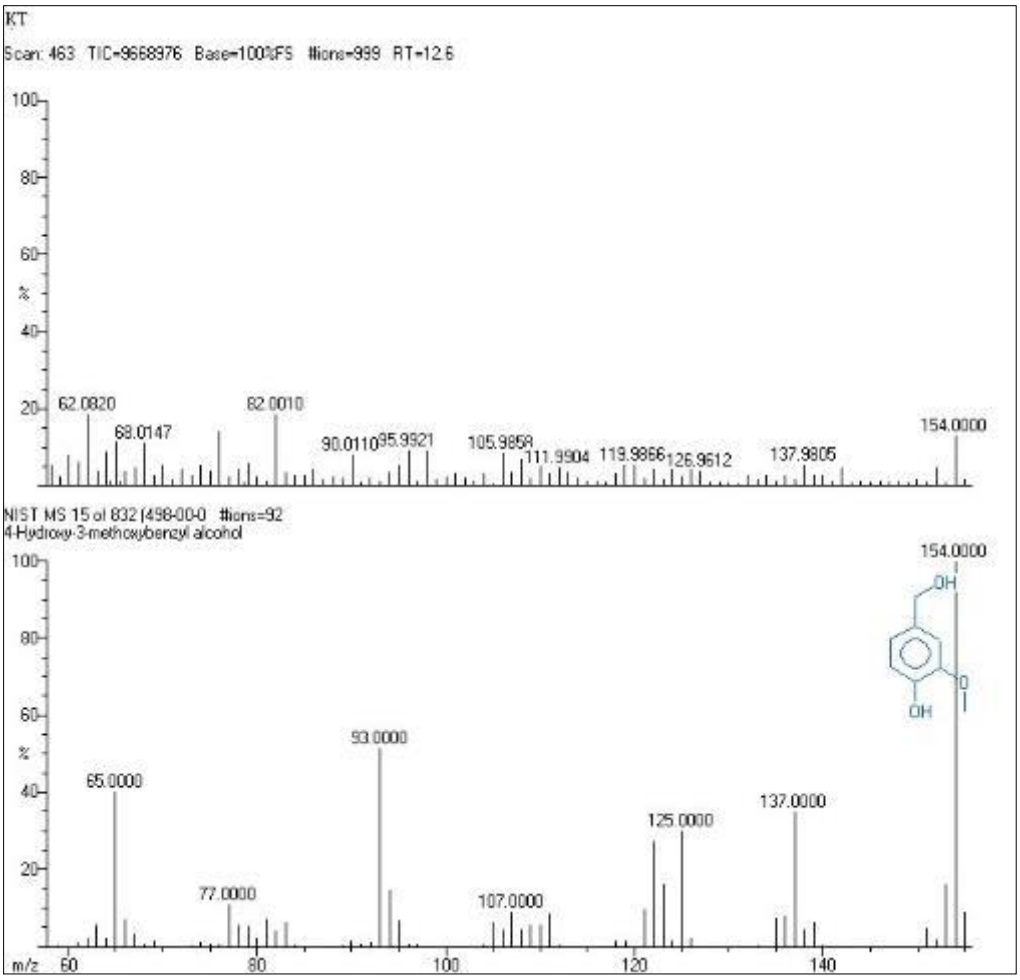
3. Result

3.1. Physicochemical analysis of Kaiyanthylam

(Values are mean of three determination +_ SEM)

Table 2 Physicochemical analysis

Parameters	**Total ash**	**Values**
Ash value	Water soluble ash	9.80±0.100
	Acid insoluble	1.60±0.110
Extractive value	Water soluble extractive value	9.70±0.100
Loss on drying	Loss on drying at 110°C	1.30±0.100
Colour		Yellow
PH		6.90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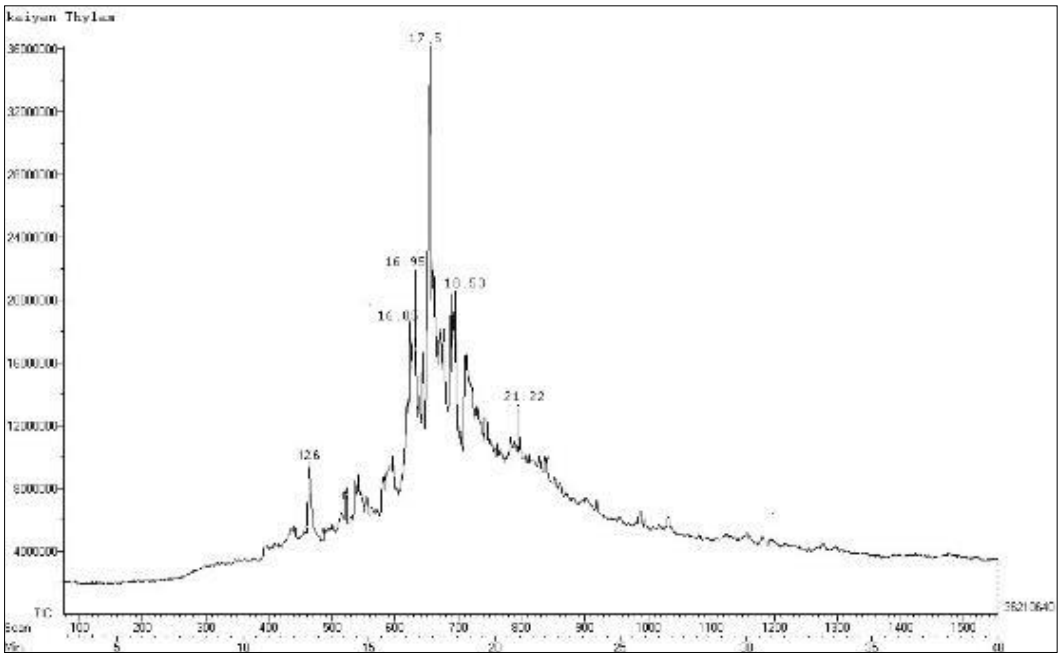
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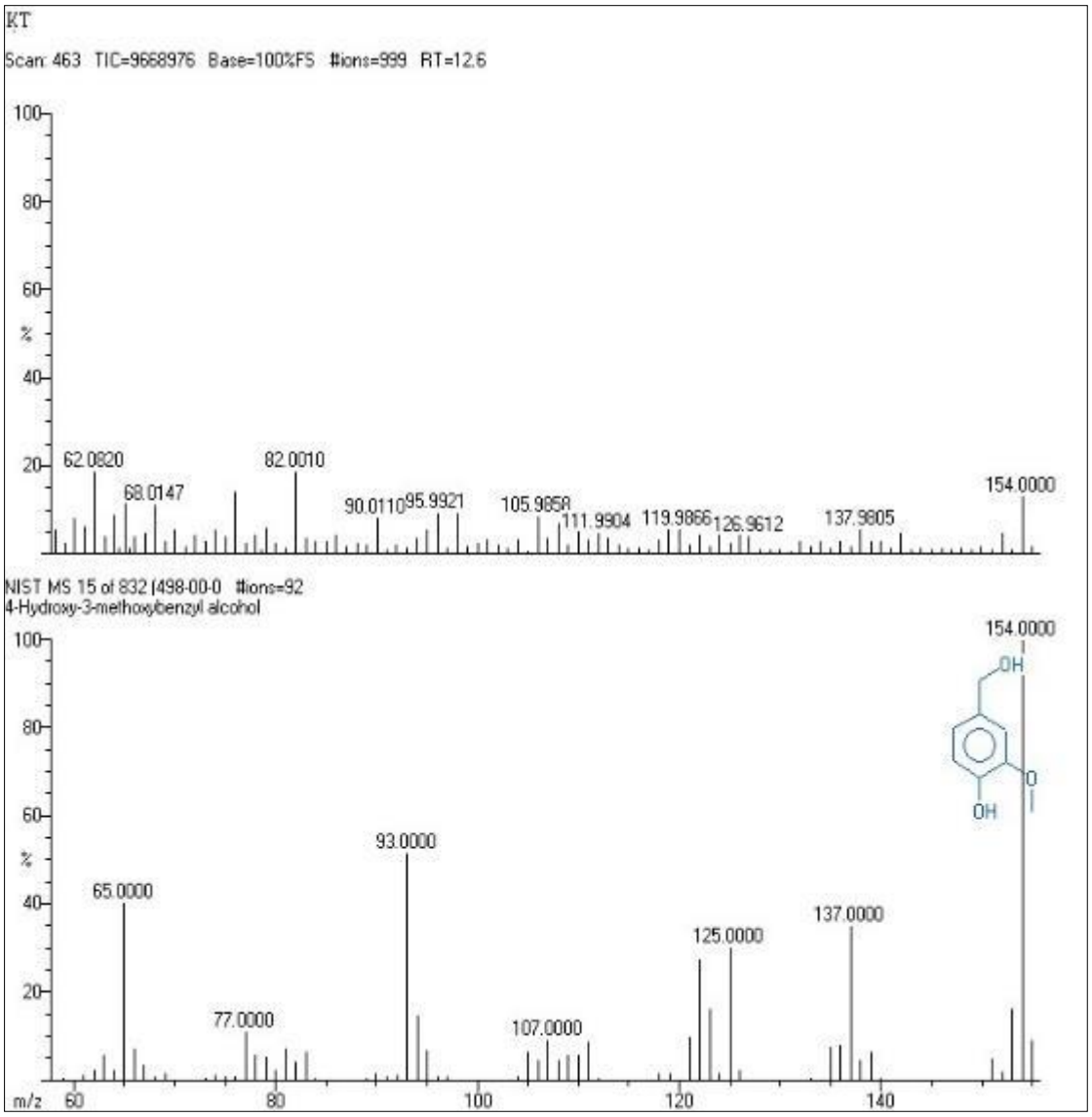
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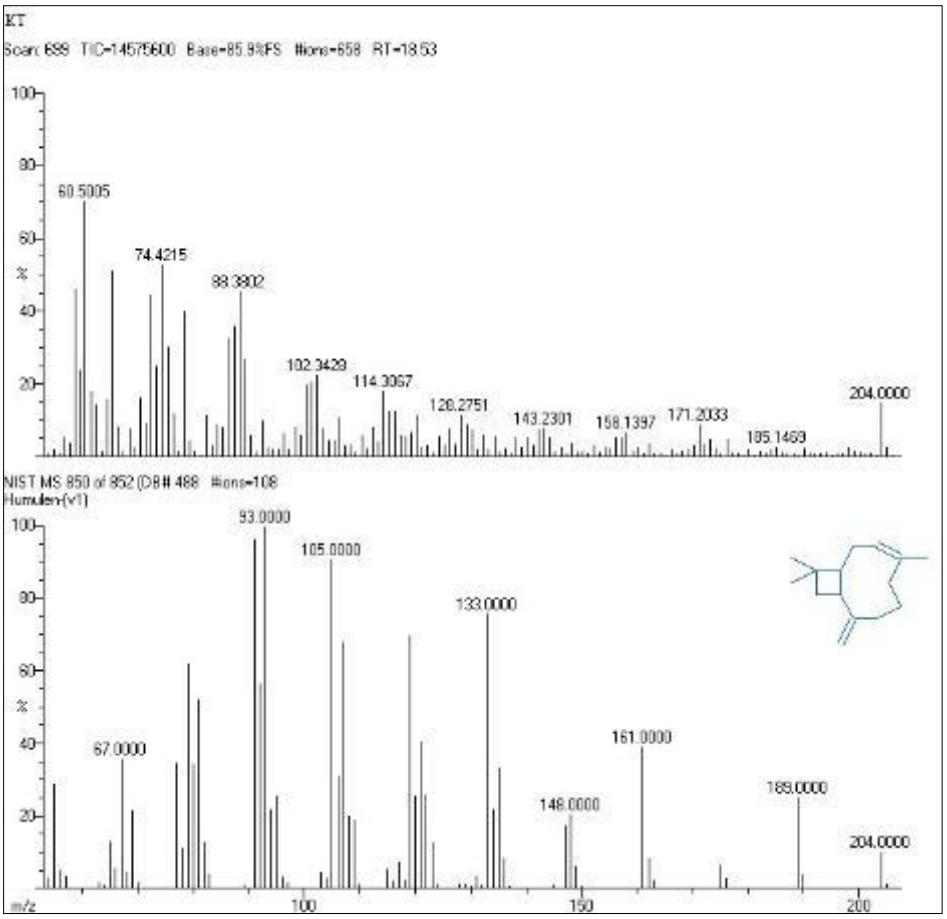
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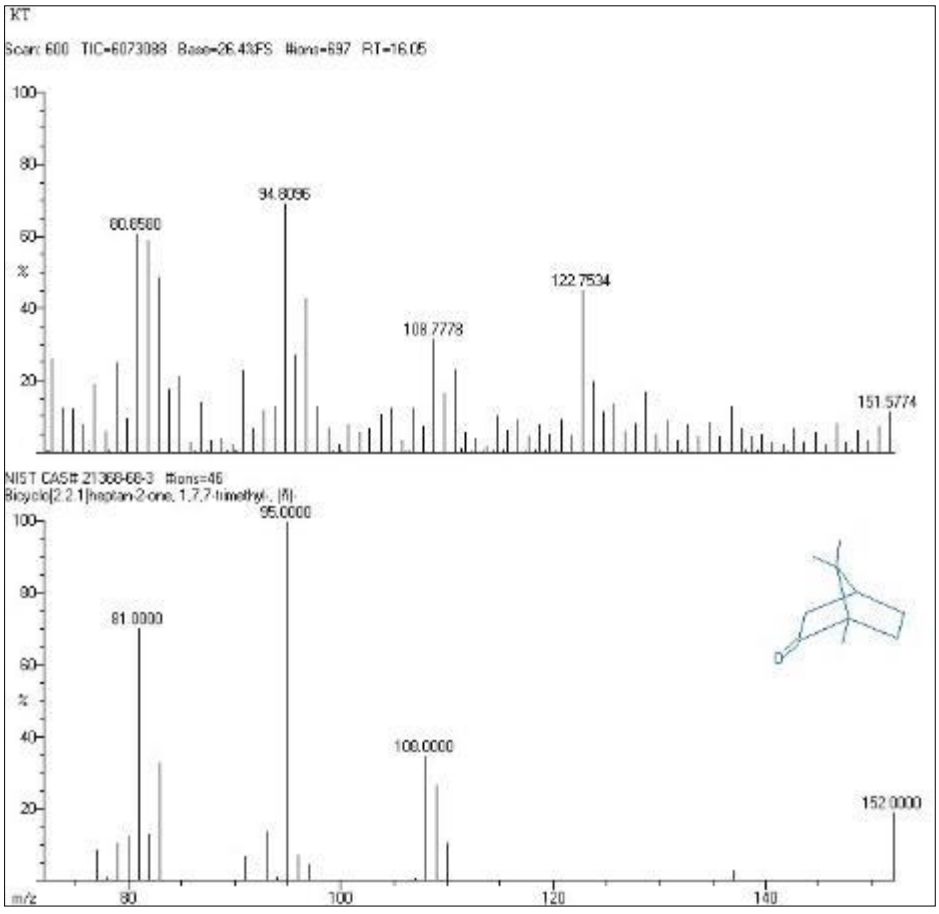
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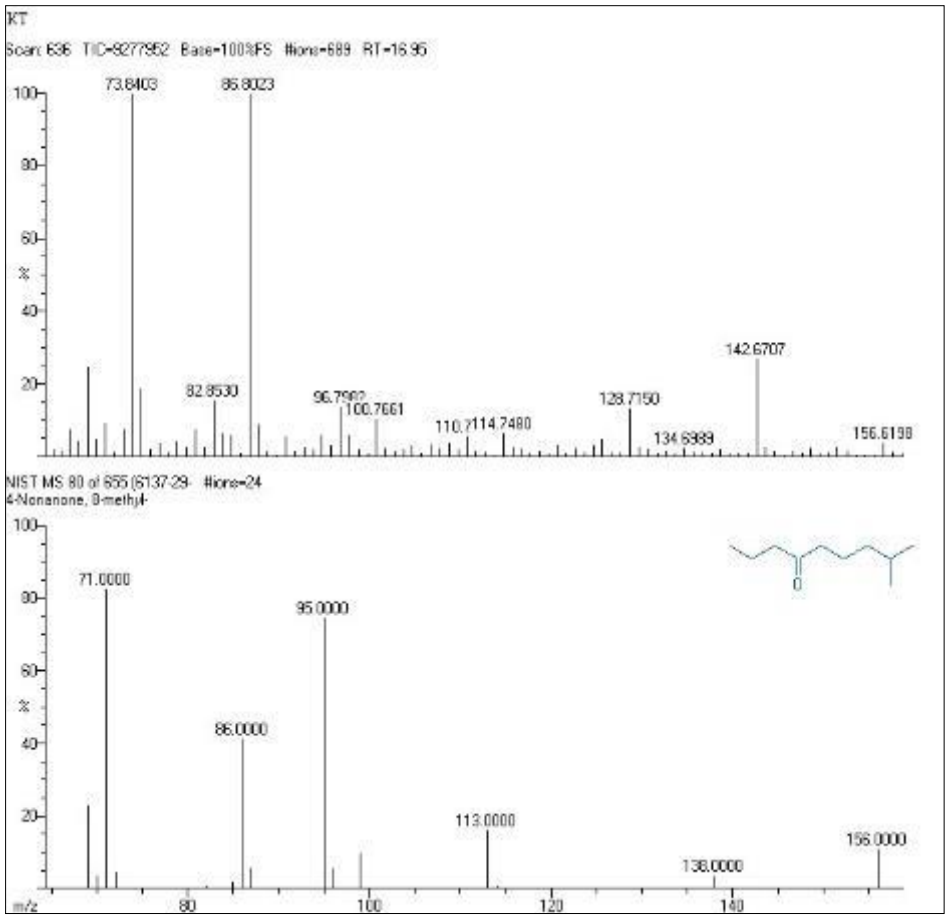
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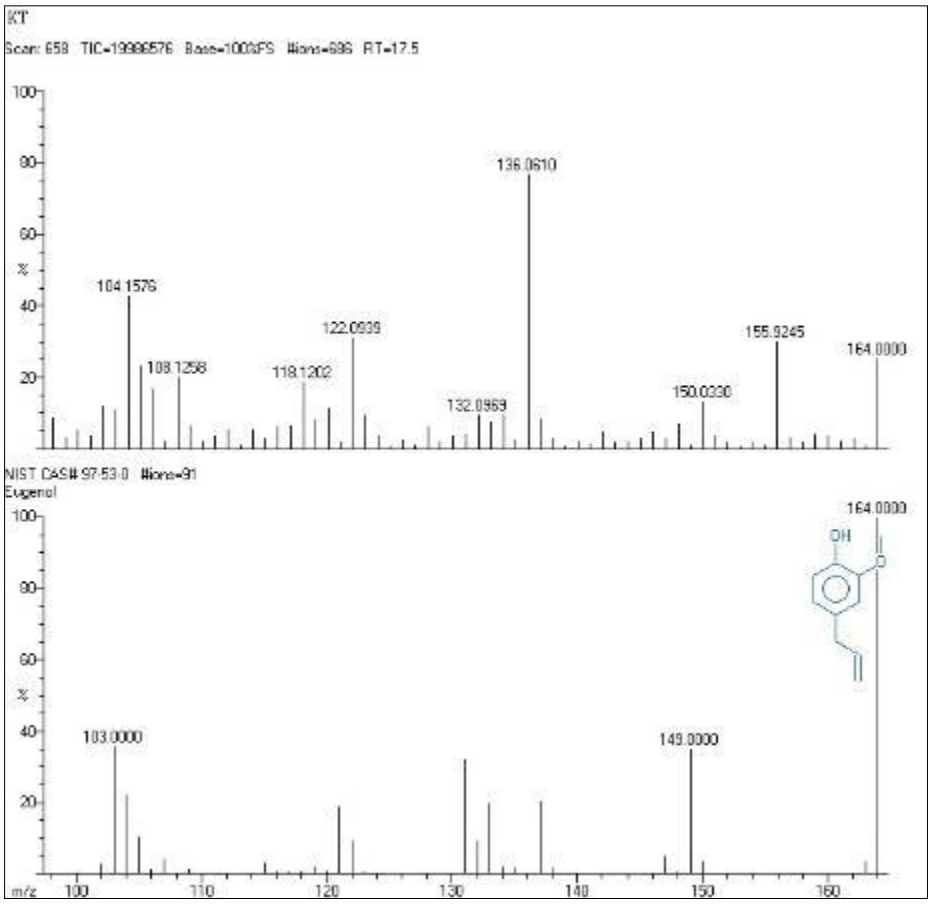
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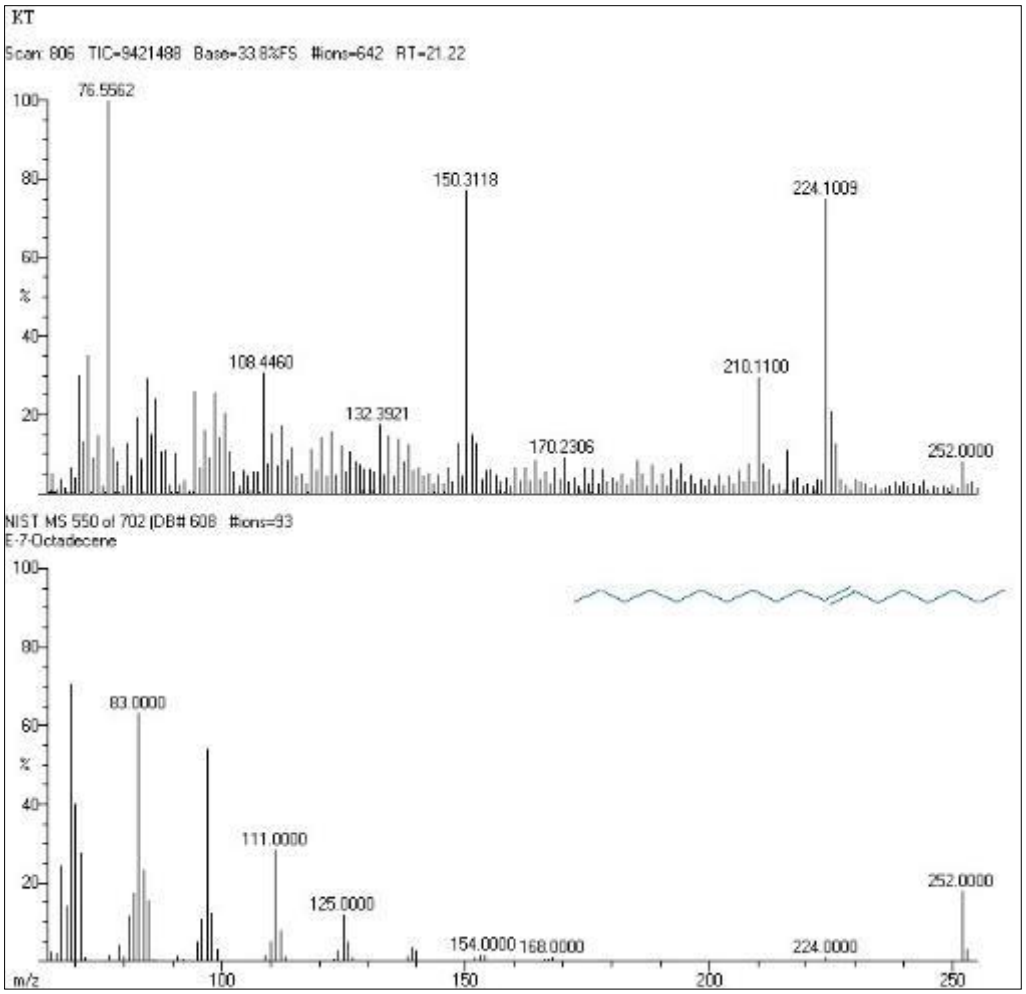

Figure 2 GCMS analysis

S.No.	Retention Time	Peak Area percentage	Name of Compounds identified with NIST Library
1	12.60	6.80	4-HYDROXY…ALCOHOL
2	16.50	13.60	BICYCLO..HEPTO2-ONE
3	16.95	20.45	4-N0NANONE-8-METHYL
4	17.50	40.90	EUGENOL
5	18.53	13.60	HUMLEN
6	21.22	4.54	7-OCTADECANE

4. Discussion

4.1. Physicochemical analysis

Ash value of water soluble ash 9.80±0.100
Ash value of acid insoluble ash 1.60±0.110
Water soluble extractive value 9.70±0.100
Loss on drying at 110 C 1.30±0.100
Colour of sample isyellow

PH of sample 6.90

4.2. GCMS analysis

Gcms analysis indicates the presence of elements with their peak area percentage4-hydroxy -3-methoxybenzyl alcohol6.8 ,bicycle(2.2.1) heptan -2-one 13.6, 4 Nonanone -8-methyl 20.45,Eugenol40.90,humulen 13.6, 7-Octadecane 4.54.

From this study it is observed that the element eugenol peak area percentage in the sample.

5. Conclusion

In this study Kaiyanthylam have been prepared and analysed for physicochemical properties and Gcms analysis ,molecules such as 4- hydroxyl -3-methoxybenzyl alcohol, bicycle heptan -2- one , 4- nonanone-8- methyl,eugenol , humlen , 7-octadecane has been identified. Above one of the identified molecule7-octadecane is an alkane hydrocarbon.it is generally a non-narcotic oral antitussive drug used to suppress coughing. A gas indicated in combination with others to determine lung volume and pulmonary blood flow. Then Humlen has the potential to promote as an anti-inflammatory, to treat allergies, and as a target to reduce tumor growth. Humulen one is a natural product found in panax ginseng. It has been used to strengthen the immune system and improving overall health. Then another one molecule of Bicyclo-hepton-one also known as Norbornane .is an organic compound and a saturated hydro carbon used in medicine to make propellants for inhalers .Another identified molecule Eugenol has anti-inflammatory, anti-asthmatic,anti-oxidant, actions. From this study it is clear that the QUALITATIVE & QUANTITATIVE analysis of Kaiyanthylam contains the mineral elements which would be helpful in effective management of productive cough.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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