PHARMACOGNOSTICAL AND PHYTOCHEMICAL SCREENING OF PHYSICO-CHEMICAL PARAMETERS AND FLUORESCENCE ANALYSIS ON ETHANOLIC LEAVES EXTRACT OF *Ipomoea sepiaria* KOENIG EX. ROXB.

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ABSTRACT

Several traditional medicinal plants have been investigated concerning their anti-obesity potential sources of is *Ipomoea sepiaria* Koenig ex. Roxb. which belongs to the family Convolvulaceae and is a glabrous or occasionally pubescent, slender twining climber with a slightly thickened or tuberous perennial root and leaf with dull purplish patches in the center and pink to purplish flowers The medication is rumored in fables arrangement of medication for different helpful properties like, love potion and counteractant to arsenic harming, tonic, restoring, diuretic, purgative, uterotonic and sterility in ladies and leaves is indicated especially in diabetes. Phytochemical screening of various extracts of *Ipomoea sepiaria* revealed the presence and absence of different phytochemicals are present in ethanol extract, further studies were carried out with leaves of *Ipomoea sepiaria* ethanol extract. GC-MS Chromatogram of *Ipomoea sepiaria* is given in GC-MS analysis of *Ipomoea sepiaria* leaves ethanol extract revealed the presence of 20 bioactive compounds that are

tabulated with retention time, peak area and area % All bioactive compounds have medicinal properties and biological activities against many diseases. The data created by this specific investigation gives pertinent pharmacognostic and phytochemical information required for appropriate distinguishing proof and verification of leaves of this specific species.

1. INTRODUCTION:

India is a varietal emporium of medicinal plants and is one of the richest countries in the world concerning genetic resources of medicinal plants. The agro-climatic conditions are favorable for introducing new exotic plant varieties many infectious diseases are known to be treated with herbal remedies throughout the history of mankind. In India, Herbal drugs have been the premise of treatment and solution for different infections in customary strategies rehearsed, for example, Ayurveda, Unani, and Siddha. Plant origin phytochemicals have an enormous therapeutic potential to heal many infectious diseases. At present nearly 80% of the world population rely on plant-based drugs for their health care need (Shil, *et al.,* 2014). Several pharmacological treatments have been elaborated to promote weight loss. Unfortunately, current pharmacotherapeutic remedies for the treatment of obesity and related metabolic disorders remain limited and ineffective (Cao, 2004). Diabetes is a major worldwide health problem predisposing to markedly increased cardiovascular mortality and serious morbidity related to the development of Nephropathy, Neuropathy, and Retinopathy (Wilkinson, *et al.,* 2011). Adipose tissue is no longer considered as a simple fat storage tissue. Increase of body fat mass, particularly abdominal adiposity, is associated with increased risk of type 2 diabetes mellitus, hypertension, dyslipidemia, cardiovascular disease, and cancer which is likely to be promoted by altered adipokine secretion patterns of hypertrophic adipocytes.

The general health benefits of reducing fat mass in overweight and obese people are evident. Improvements in obesity-related metabolic dysfunctions are already observable with a reduction of 5-15% of initial body weight (Caterson and Finer 2006). Scientific investigations of medicinal plants are a key source for discoveries with potential in obesity treatment and prevention. There have been multiple claims for medicinal plants to exert anti-obesity actions of which some such as *Salacia reticulata, Panaxjaponicus, Momordica charantia,* and *Dioscorea nipponica* are already in use for the prevention and the treatment of obesity. The chances for success in medicinal plant research are certainly

improved when the selection of a plant is based on its traditional use (Brito, 1996). The lipids being stored in the cells can be utilized for energy expenditure and the synthesis of the lipid bilayer. Lipid reserves are a characteristic of adipocyte cells; increased lipid droplet accumulation within cells can be an indicator of metabolic deficiency or pathogenesis. For example, excessive accumulation of lipids in liver cells (steatosis) can lead to cellular dysfunction (Mashek, *et al.,* 2015). Due to the increase of resistance to antibiotics, there is a need to develop new and innovative antimicrobial agents. Among the likely wellsprings of new operators, plants have for some time been examined. Because they contain many bioactive compounds that can be of interest in therapeutic. The genus Ipomoea since time immemorial has been in continuous use for different purposes, such as nutritional and medicinal uses. *I. aquatic* and *I. batatus* are consumed as food in Sri Lanka, Hong Kong, Taiwan, and China. The most common use of the roots of Ipomoea species is to treat constipation and is also used in the treatment of diabetes (*I. aquatic*), Leaves decoctions are used as alterative, aphrodisiac, astringent (*I. batatas*), Against Immunodeficiency Syndrome (AIDS) and to treat hypertension (*I. carnea*) (Marilena *et al.,* 2012). Therefore we conducted an ethnobotanical survey to identify medicinal plants with weight loss properties as suggested by traditional healers in Cameroon. Based on this survey three medicinal plants were collected and their ethanolic extracts screened for anti-adipogenic action in preadipocyte culture. As an outcome of our ethnopharmacological survey as well as initial cell culture screening, *Ipomoea alba* (common Cameroonian name: *Iwong*; common English name: Moon Wine) was the most potent plant with little signs of toxicity and maximum effect on adipogenesis. *Iwong* is widely used in the traditional medicine of Cameroon to facilitate weight loss and as an anti-diabetic remedy. Plants and their products have been used for many years for human health. There are still many plants that have various medicinal values but still not explored and used. Plants contain many novel compounds with medicinal values that need scientific exploration. Medicinal plants are of great interest to the researcher in the field of life science especially biotechnology where most of the pharmaceutical industries depend on the plant parts for the production of pharmaceutical drugs. Hence the present study focused on phytochemical screening and analysis of bioactive compounds from the ethanol extract of *Ipomoea sepiaria* (Koenig Ex. Roxb) leaves using Gas Chromatography and Mass Spectrometry.

2. MATERIAL METHODS:

2.1: Plant Collection

The fresh leaves of *Ipomoea Sepiaria* were collected from Perumalagaram village, Thiruvarur District, Tamil Nadu, India.

2.2: Plant material

The *Ipomoea Sepiaria leaves* was dried under shade, mechanically reduced to a moderately coarse powder, and stored in amber-colored airtight containers. The coarse type of the medication was utilized for the assurance of physicochemical boundaries like dampness content, debris esteems, expanding file, frothing record, unfamiliar natural issue, extractive qualities, fluorescence analysis.

2.3: Physico-chemical analysis

Air-dried *Ipomoea Sepiaria leaves* was used for the quantitative determination of ash values, extractive values, moisture content, swelling index, foaming index, and foreign organic matter, via standard methods. (Kokate 2005; The British Pharmacopoeia Commission 2010). The government of India 2001; Trease and Evans 2002). The total Ash value for a crude drug is not always reliable since there is a possibility of the presence of non-physiological substances such as earthy matters. Along these lines, the boundaries, for example, corrosive insoluble, water-dissolvable, and sulphated debris esteems were performed. Extractive values with petroleum ether, chloroform, ethyl acetate, ethanol, methanol, and water were also determined. The fluorescence analysis is a tool for the determination of constituents in the *Ipomoea Sepiaria leaves* that give a definite idea of the chemical nature. Fluorescence analysis of *Ipomoea Sepiaria leaves* powdered and various extracts was carried out by the standard method (Kumar *et al.*, 2012).

2.4: Preliminary Phytochemicals screening

Preliminary phytochemical screening was performed using standard procedures. (Khandelwal 2002; Kokate, 2005; British Pharmacopoeia Commission 2010). The extracts

obtained from different solvents were subjected to identification tests for the detection of different phytoconstituents through organic and inorganic elements analysis, via the method of (Khandelwal, 2002).

2.5: Gas Chromatography-Mass Spectrometry (GC-MS) analysis

The GC-MS analysis of the sample was performed using a Shimadzu GCMS-QP2010 gas chromatograph-mass spectrometer interfaced with a Turbo Mass quadrupole mass spectrometer, fitted with an Rtx-5 fused silica capillary segment (30 X0.25 mm, with 1 Cm film thickness). The oven temperature was programmed from 100ºC to 320º C at 100ºC/min and hold for 10 min. Helium was used as carrier gas at a flow of 1.0 mL/min. The injector temperature was 250 ºC, injection size 1 µL neat, with a split ratio of 1:10. The interface and MS ion source were maintained at 320ºC and 200ºC respectively and the mass spectra were taken at 70eV with a mass scan range of 40-700 AMU (atomic mass unit). Data handling was done using GCMS solution software.

2.6: Identification of Compounds

Interpretation of the mass spectrum of GC-MS was conducted using the mass spectral database of the National Institute of Standard and Technology (NIST) having more than 62,000 patterns. The range of the obscure segment was contrasted and the range of the realized segments put away in the NIST library. The name, sub-atomic weight, and structure of the parts of the test materials was determined.

3. RESULT AND DISCUSSION

3.1: Physico-chemical analysis

Drugs originating from *Ipomoea Sepiaria leaves* powdered sources are thought to be a promising alternative for other synthetic anti-diabetics such as sulphonylureas, insulin treatment, and biguanides. *Ipomoea Sepiaria leaves* products are believed to more preferable due to less toxicity, economic and better patient compliance. Hence, medicinal brown seaweed powdered and products thereof are used in many countries in the treatment and management of diabetes. The results of physicochemical parameters such as total ash, acid

insoluble ash, water-soluble ash, and sulphated ash are shown in the sulphated ash value (7.2%) was lower than the total Ash value (11.7%). The acid-insoluble and water-soluble ash values were 0.3% and 4.5%, respectively (Table: 1). Further, the results also showed that moisture content, swelling index and foaming index were found to be 17.23%, 0.5 cm and less than 100 respectively while foreign organic content was found to be Nil (Table: 2). The extractive values for various solvents such as ethanol, methanol, water, chloroform, ethyl acetate and, petroleum ether were found to be 7.8%, 5.3%, 3.8%, 1.3%, 0.7% and 0.5% respectively. (Table: 3).

Table: 1. Ash values of *Ipomoea Sepiaria leaves* extract

S. No.	Parameters	Values
1	Total Ash	11.7%
2	Acid Insoluble Ash	0.3%
3	Water Soluble Ash	4.5%
4	Sulphated Ash	7.2%

Table: 2. Moisture content, foreign organic matter, foaming index and swelling index of *Ipomoea Sepiaria leaves* extract

S. No.	Parameters	Values
1	Moisture Content	17.23%
2	Foreign Organic Matter	Nil
3	Foaming Index	Less than 100
4	Swelling Index	0.5cm

Table: 3. Extractive values of *Ipomoea Sepiaria leaves* extract

S. No.	Solvent	Values % (w/w)
1	Ethanol	7.8
2	Methanol	5.3
3	Water	3.8

4	Chloroform	1.3
5	Ethyl Acetate	0.7
6	Petroleum Ether	0.5

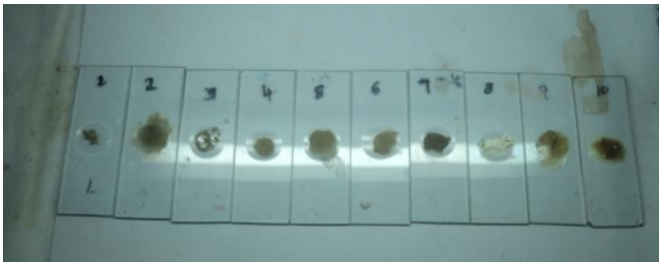
The fluorescence analysis is a tool for the determination of constituents in the *Ipomoea Sepiaria leaves* that gives a definite idea of the chemical nature. Thus, separates were likewise exposed to UV chamber and fluorescence was watched and consistency was noted as an extra character for distinguishing proof. Fluorescence investigation of the powdered medications was performed and arranged which assists with distinguishing the defilement because phytoconstituents display trademark fluorescence under bright light when they got blended reagents. (Fig-1). The fluorescence displayed by the blend was ascribed to the substance constituents present in the rough medication. Before the phytochemical screening, a good guess of phytoconstituents was finished by the conduct of powder tranquillize with various compound reagents which powdered medication demonstrated various hues when it gets varied the particular reagents which reflect the presence phytochemicals in accordance using the colours obtained. Fluorescence behaviour of *Ipomoea Sepiaria leaves* extract was represented in (Table: 4).

3.2: Preliminary phytochemical screening

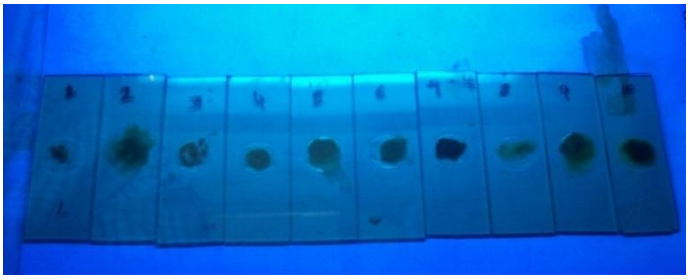
India is probably the biggest maker of therapeutic spices on the planet. The Indian customary medicinal services framework, Ayurveda gives a moderately sorted out database and more thorough depiction of natural materials, a considerable lot of which have been utilized as layouts for novel medication advancement. Nature has provided a complete storehouse of remedies to cure all ailments of mankind by providing our drugs in the form of herbs, plants and algae to cure the incurable diseases without any toxic effects. Nowadays allopathic system usage was decreased due to side effects, adverse reactions, so now a day's herbal drugs usage was increased due to fewer side effects and patience acceptance in these way herbal drugs usage was increased. In the present study, the attempt is made to the phytochemical investigation of the petroleum ether and ethyl acetate extracts of *Ipomoea sepiaria* leaves and performed antibacterial, antifungal and anthelmintic activities. The different phytochemical constituents are steroids, triterpenoid, Anthraquinone glycosides, proteins are found in the extracts of *Ipomoea sepiaria* leaves. Ethyl acetate extract showed mild to moderate activity and better anthelmintic activity when compared to petroleum ether

extract. Mechanism of the anthelminthic activity of *Ipomoeasepiaria* cannot be explained based on our present results. From the perceptions made, the higher centralization of concentrate created incapacitated impact a lot before and the opportunity to death was shorter for all worms. So further investigation has to be carried to identify the active chemical constituents present in the extracts of *Ipomoea sepiaria*. The phytochemical report of the *Ipomoea Sepiaria leaves* powdered exposed the presence of alkaloids, carbohydrates, flavonoids, proteins, amino acids, phenols, tannins, glycosides and steroids as organic phytoconstituents (Table:5). Every constituent plays an important role and deficiency of any one constituent may lead to abnormal developments in the body. *Ipomoea Sepiaria leaves* powdered are a rich source of all the elements essential for a human being. Qualitative analysis of various inorganic elements revealed the presence of Calcium, Magnesium, Sodium, Potassium, Iron, sulphates, phosphates, Chloride and Nitrate (Table: 6).

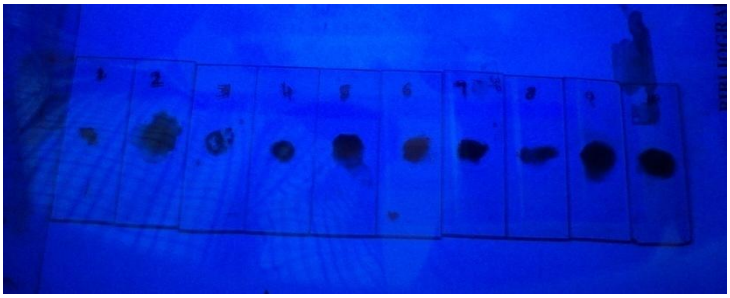
Fig 1: Fluorescence studies of *Ipomoea Sepiaria leaves* extract



Visible Light



Short UV



Long UV

Table: 4. Fluorescence studies of *Ipomoea Sepiaria leaves* extract

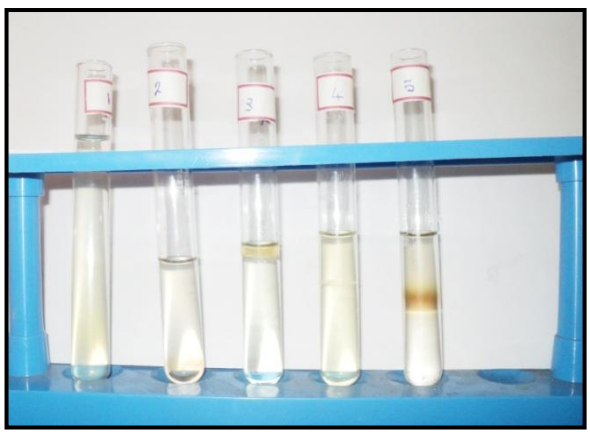
S.NO	Analysed phytochemical factor	Visible Light	Short UV 254nm	Long UV 365nm
1	brown seaweed powder (pp)	Dark Green	Light Green	Light Block
2	PP with water	Light Green	Light Green	Dark Green
3	PP with Hexane	Dark Brown	Light Brown	Brown
4	PP with Chloroform	Light Green	Green	Block
5	PP with Methanol	Dark Green	Light Green	Dark Green
6	PP with acetone	Green	Dark Black	Green
7	PP with IN Sodium hydroxide in water	Light Green	Brownish - Yellow	Light Green
8	PP with IN Hydrochloric acid	Dark Green	Green	Dark Green
9	PP with sulphuric acid with an equal amount of water	Light Green	Light Block	Dark Black
10	PP with Nitric acid diluted with an equal amount of water	Dark Green	Green	Dark Green

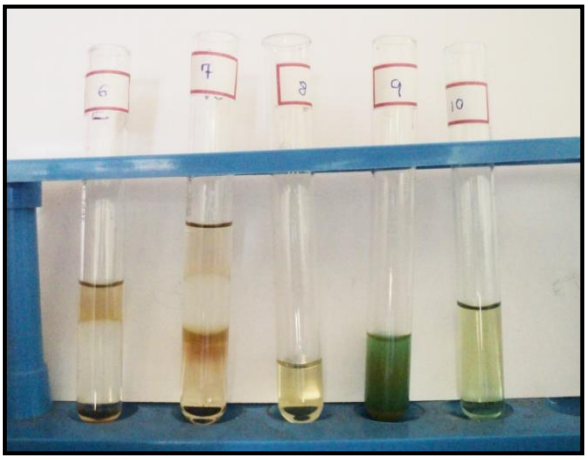
Table: 5. Qualitative analysis of Phytochemicals analysis *Ipomoea Sepiaria leaves* extract

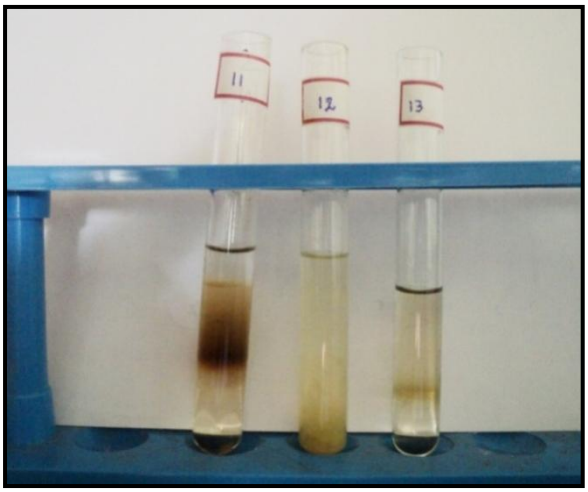
S. No	Analysed Phytochemicals factor	Ethanol	Methanol	Water	Chloroform	Ethyl Acetate	Petroleum Ether
1.	Tannin	++	+	+	+	+	+
2.	Phlobatannins	-	+	+	-	-	+
3.	Saponin	+	+	-	+	-	-
4.	Flavonoids	++	+	-	-	+	+
5.	Steroids	++	-	+	+	+	+
6.	Terpenoids	+	+	+	-	-	+
7.	Triterpenoids	+	+	-	+	+	-
8.	Alkaloids	++	+	+	+	+	+
9.	Carbohydrate	+	-	+	-	-	-
10.	Protein	++	-	+	-	+	-
11.	Anthraquinone	+	-	+	-	+	+
12.	Polyphenol	++	+	+	+	-	-
13.	Glycoside	+	-	-	+	+	+

Indications: "+" means positive activity, "-" means negative activity

Fig 2: Qualitative analysis of Phytochemicals analysis *Ipomoea Sepiaria leaves* ethanolic extrat







Tannin, Phlobatannins, Saponin, Flavonoids, Steroids, Terpenoids, Triterpenoids, Alkaloids, Carbohydrate, Protein, Anthraquinone, Polyphenol and Glycoside.

Indications: "+" means positive activity, "-" means negative activity

Table: 6. Qualitative analysis of Inorganic elements analysis of *Ipomoea Sepiaria leaves* extract

S. No	Inorganic elements	Result
1.	Calcium	+
2.	Magnesium	+
3.	Sodium	+
4.	Potassium	++
5.	Iron	++
6.	Sulphate	+
7.	Phosphate	+
8.	Chloride	+
9.	Nitrate	+

Indications: "+" means positive activity, "-" means negative activity

Ipomoea Sepiaria leaves powdered is the main source of good quality source of pharmacognostical and physicochemical parameters have essential role in identification, and establishment of quality parameter of the species. Supplementation of this *Ipomoea Sepiaria leaves* may be useful for human health associated emerging diseases such as diabetes, hypertension and cancer.

Figure 3: GC-MS CHROMATOGRAM OF *Ipomoea Sepiaria leaves* extract

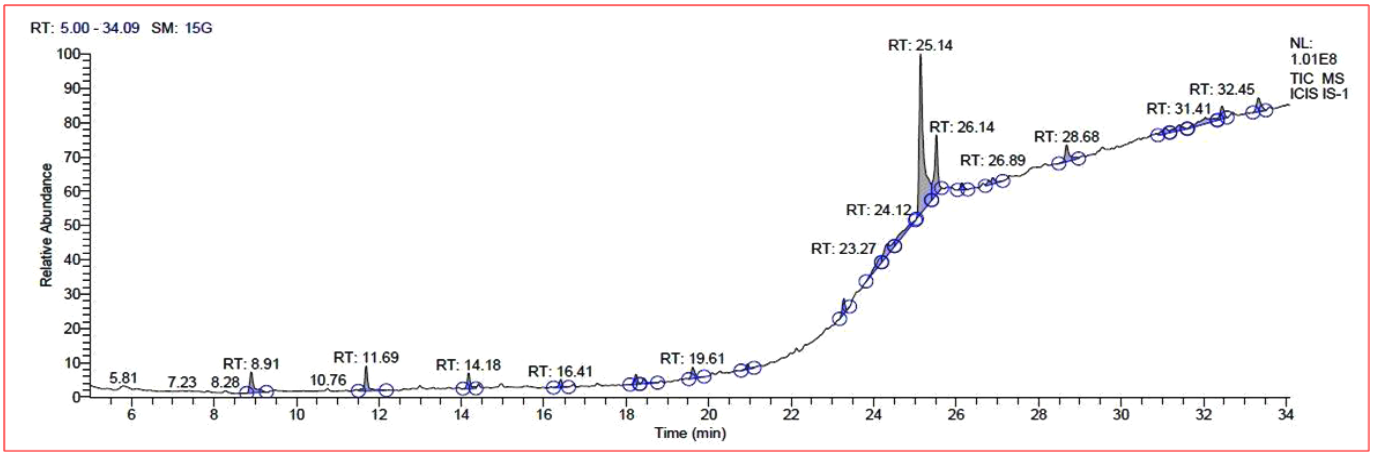
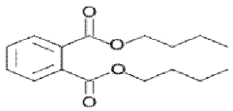


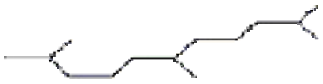
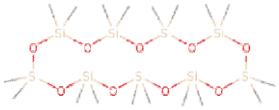
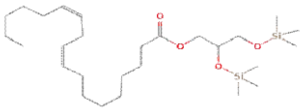
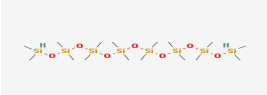
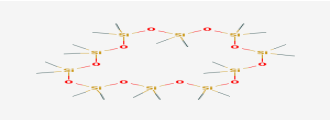
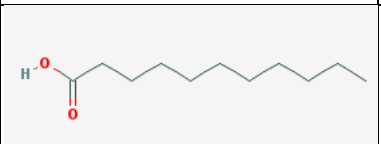
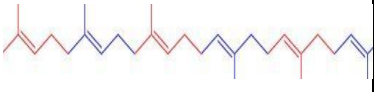
Table 7: GCMS analysis - Bioactive compounds

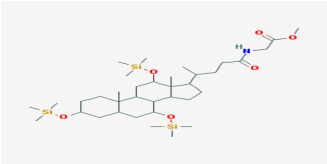
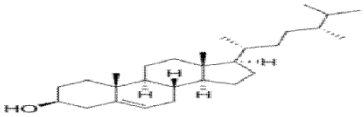
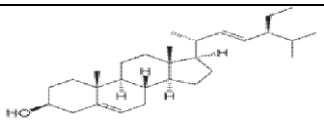
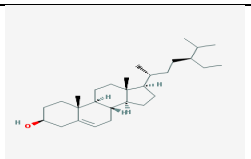
S. No.	Name of the Compound	Molecular Formula	RT	Peak Area
1.	1-Dodecene	C12H24	8.91	44952376.95
2.	1-Hexadecanol	C16H34O	11.69	42720223.68
3.	1-Hexadecene	C16H32	14.18	24576621.36
4.	2-Hexadecanol	C16H34O	16.41	13943338.09
5.	Dibutyl phthalate	C16H22O4	18.23	13922255.36
6.	9-Hexacosene	C26H52	18.43	10984825.07
7.	3,7,11,15-Tetramethyl-2-hexadecen-1-ol	C20H40O	19.61	20740094.64
8.	Cyclononasiloxane,octadecamethyl-	C18H54O9Si9	20.94	8749529.45

9.	1,Monolinoleoyllyceroltrimethylsilyl ether	$C_{27}H_{54}O_4Si_2$	23.27	21974192.19
10.	Octasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15hexadecamethyl-	$C_{16}H_{50}O_7Si_8$	24.12	25954979.84
11.	Cyclodecasiloxane, eicosamethyl-	$C_{20}H_{60}O_{10}Si_{10}$	24.30	42741525.97
12.	Hexasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11-dodecamethyl-	$C_{12}H_{38}O_5Si_6$	24.59	34210449.36
13.	13Docosenamid(Z)-	$C_{22}H_{43}NO$	25.14	358977227.56
14.	Squalene	$C_{30}H_{50}$	25.52	104742878.64
15.	Octadecane, 3-ethyl-5-(2-ethylbutyl)-	$C_{26}H_{54}$	26.14	11725567.80
16.	Glycine, N-[(3a,5a,7a,12a)-24-oxo-3,7,12-tris[(trimethylsilyl)oxy]cholan-24-yl]-, methyl ester	$C_{36}H_{69}NO_6Si_3$	26.89	18138545.41
17.	Campesterol	$C_{28}H_{48}O$	31.41	21764952.86
18.	Stigmasterol	$C_{29}H_{48}O$	32.04	41085095.62
19.	Hexatriacontane	$C_{36}H_{74}$	32.45	25639801.78
20.	ç-Sitosterol	$C_{29}H_{50}O$	33.33	32246258.84

Fig 4: GC-MS Analysis of Activities/Uses of bioactive compounds of *Ipomoea sepiaria* leaves

S.No	Name of the Compound	Nature of the Compound	Structure	Mol. weight g/mol	Activity / Uses
1.	1-Dodecene $C_{12}H_{24}$	Alkene (alpha-olefin)		168.32	Antimicrobial and used in production of mercaptans, flavours and fragrances, alkyl metals, halides, alkyl silanes and detergents
2.	1-Hexadecanol $C_{16}H_{34}O$	Fatty alcohol		242.44	Antioxidant activity
3.	1-Hexadecene $C_{16}H_{32}$	Alkene (alpha-olefin)		224.42	Antimicrobial, Antioxidant, used in production of linear plasticizers, oxo-alcohols, motor fuels, lubricants, automotive additives, biodegradable surfactants
4.	2-Hexadecanol $C_{16}H_{34}O$	Long Chain Aliphatic alcohol		242.44	Antimicrobial, Antioxidant activity
5.	Dibutyl phthalate $C_{16}H_{22}O_4$	Plasticizer		278.34	Antibacterial and Antifouling activity
6.	9-Hexacosene $C_{26}H_{52}$	Alkene		364.69	Analgesic, Anti-inflammatory, Antinociceptive

7.	3,7,11,15-Tetramethyl-2-hexadecen-1-ol $C_{20}H_{40}O$	Terpene alcohol		296.53	Antimicrobial, Anti-inflammatory activity
8.	Cyclononasiloxane, octadecamethyl- $C_{18}H_{54}O_9Si_9$	Volatile organic compound		667.38	Antioxidant activity
9.	1-Monolinoleoylglycerol trimethylsilyl ether $C_{27}H_{54}O_4Si_2$	Steroid		498.88	Antimicrobial Antioxidant Antiinflammatory Antiarthritic Antiasthma, Diuretic, Antidiabetic
10	Octasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15-hexadecamethyl- $C_{16}H_{50}O_7Si_8$	Volatile organic compound		579.248	Antimicrobial activity
11	Cyclodecasiloxane, eicosamethyl- $C_{20}H_{60}O_{10}Si_{10}$	Volatile Aromatic compounds		741.53	Antimicrobial activity
12	Hexasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11-dodecamethyl- $C_{12}H_{38}O_5Si_6$	Hydride groups		430.94	Antimicrobial activity
13	13-Docosenamide, (Z)- $C_{22}H_{43}NO$	Amide group		337.58	Antimicrobial activity
14	Squalene $C_{30}H_{50}$	Triterpene		410.73	Antibacterial, Antioxidant, Pesticide, Antitumor, Cancer preventive, Immunostimulant,

					Chemo preventive, Lipoxygenase-inhibitor
15	Octadecane, 3-ethyl-5-(2-ethylbutyl)- C26H54	Higher alkanes		366.70	Antifungal, Antioxidant, Anti-inflammatory
16	Glycine, N-[(3a,5a,7a,12a)-24-oxo-3,7,12-tris[(trimethylsilyl)oxy]cholan-24-yl]-, methyl ester C36H69NO6Si3	Esters		696.192	Antibacterial, antiperspirant activity
17	Campesterol C28H48O	Phytosterols		400.69	Hypocholesterolemic, Antiatherosclerotic, Antiasthma, Antiarthritic, Antioxidant
18	Stigmasterol C29H48O	Phytosterols		412.69	Antihepatotoxic, Antiviral, Antioxidant, Anticancer, Hypocholesterolemic
19	Hexatriacontane C36H74	Higher alkanes		506.97	Antimicrobial and Antioxidant
20	ç-Sitosterol C29H50O	Steroid		414.706	Antimicrobial, Anticancer, Antiarthritic, Antiasthma, Diuretic, Anti-inflammatory activity.

Dibutyl phthalate (DBP) is an individual from the gathering of synthetic concoctions normally known as phthalates, utilized worldwide as solvents (to disintegrate different substances) and plasticisers (to make different substances gentler or more flexible). DBP has antibacterial and antifouling properties (Shubhangi Nagorao Ingole, 2016). Octasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15-hexadecamethyl- is a volatile organic compound which has antimicrobial activity Kumaradevan, *et al.,* 2015).(Table7). Squalene is a hydrocarbon, triterpene, normal and fundamental piece of the amalgamation of all plant and creature sterols, including cholesterol, steroid hormones, and nutrient D in the human body. All plants and creatures produce squalene as a biochemical middle of the road, including people. Squalene is one of the most common lipids produced by human skin cells (Cotterill, *et al.,* 1972). The present study enabled us to conclude the potential use of petroleum ether and ethyl acetate extracts of *Ipomoea sepiaria* as mild to moderate antibacterial and antifungal agent but it possesses significant anthelmintic activity against Pheretima Posthuma. Extensive research is needed to determine the individual component responsible for the anthelmintic activity and molecular mechanism responsible for the same.

4. CONCLUSION

Various pharmacognostical and physicochemical parameters have pivotal roles in identification, authentication, and establishment of quality parameters of the species is also important, and pharmaceutical companies for the novel drugs for the treatment of various diseases. In the present investigation, 20 compounds from the ethanolic leaves extract of *Ipomoea Sepiaria* were identified by Gas-chromatography– Mass spectrometry (GC-MS) analysis. The biological activities of each of the identified phytocomponents used for antimicrobial and anti-cancer activities. Biochemical compound identification of the plant constituents was conducted depending upon their retention time (RT), molecular formula, molecular weight and mass spectral data, as well as by computer search mass spectral databases. Gas chromatography and mass spectroscopy analysis showed the existence of various compounds with different chemical structures. Thus, improving the methods for the qualitative and quantitative determination of medicinal plants is very important for quality assessment in the medicinal plant industry. Besides, the phytochemical analysis gives a good monitoring method of the seasonal changes of the active constituents and during cultivations and harvesting which assists in collecting the largest amounts of the active constituents We report the nearness of a portion of the significant parts settled by GC-MS examination and

their organic exercises. Along these lines this sort of GC-MS investigation is the initial move towards understanding the idea of dynamic standards in this restorative plant and this kind of study will be useful.

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