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**Research Article**



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**Standardization of *Venthaya Chooranam* through Fourier Transform Infra-Red Spectroscopy**

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**Abstract**

*Siddha* system of medicine is the most primitive medical system in India. The medical system fully depends upon concept of the nature. Herbs are always having highly potent medicinal value. The *Venthaya chooranam* is one of the best *siddha* formulation indicated in *siddha* literatures for the management of Gastro Intestinal Tract problems like gastritis, indigestion, heart burn, pricking pain of chest.

The aim of the present study was to standardize the *siddha* herbal drug formulation *venthaya chooranam* by FTIR (Fourier Transform Infrared Spectroscopy).

**Keywords:** FTIR, *Venthaya chooranam*, Functional group.

**Introduction**

*Siddha* system of medicine is the most popular traditional system of medicine followed by the people of Tamilnadu nowadays. Gradually, the system is spreading its benefits to the people of surrounding states also. With Strong basic Principles and cultural background, *Siddha* System of medicine is providing health care solutions to a number of health issues of the modern era. Though it is a system of medicine, *Siddha* system is guiding us to lead a perfect living in this world, Starting from the first day of birth to the last day of death. Not only that, the system takes care even before the conception itself.

*Siddha* system of medicine is founded by 18 *siddhars* who had achieved *Eight Siddhis*. *Siddha* is the word derived from the root word "*siddhi*" which means "perfection" or "Eternal Bliss". *Siddhars* are those who have attained this by practicing "*Attangayogam*" or

Eight types of Yoga. They wanted to overcome the mysteries of life like *narai, thirai, moopu, pini, sakkadu* ( Greying of hair, loss of elasticity of skin, ageing, diseases, and death ) in order to attain "*Veedu peru*" or God. *Siddha* System of Medicine is a by-product of this noble deed. Now a day's world population evolution towards herbal remedies for complete healing of such tragic ailments. Many herbs are used for their anti-ulcerogenic, anti-secretory & Gastro-protective property and they always have highly potent medical value. The *Venthaya chooranam* is the one of the best *siddha* formulation indicated in *siddha* literatures for the management of gastro intestinal problems like gastritis, indigestion, pricking of chest. The aim of the article was to standardize the *siddha* herbal drug formulation *venthaya chooranam* by FTIR medicine. The standardization of drug may be supportive for the researchers, academician and clinician to gain more confidence on these drugs and can be used clinically.

## Materials and Methods

### Ingredients :

The ingredients of *venthaya chooranam* are *venthayam*, (*Trigonollem foenum-graecum*), *Kothamalli* (*Coriandrum sativum*), *Milagu* (*Piper nigrum*), *Seeragam* (*Cuminum cyminum*), *Karunjeeragam* (*Nigella sativa*), *Chukku* (*Zingiber officinale*), *Omam* (*Trachyspermum ammi*), *Kadukkai* (*Terminalia chebula*), were bought from raw drug store in Nellai.

### Preparation of venthaya chooranam

The raw drugs were authenticated and purified as per the methods prescribed in siddha literatures.

Take Equal part of purified *venthayam*, *kothamalli*, *milagu*, *seeragam*, *karunjseeragam*, *chukku*, *omam*,

and *kadukkai*. Both drugs made in to powder form separately and mixed well. The powder passed through the sieve number 80.

### Details regarding the analysis:

FT-IR spectra was recorded at Arulmigu kalasalingam university, krishnankovil- Virudhunagar (dst) The Perkin Elmer Spectrum one Fourier Transform infrared (FTIR) Spectrometer was Used to derive the FT IR Spectra of *venthaya chooranam* in potassium Bromide (KBr) matrix with Scan rate of 5 scan per minute at the resolution 4cm in the Wave Number region 450-4000cm. FT-IR Spectra were used to determine the presence of the functional groups and bands in the *venthaya chooranam*. The recorded spectrum shows in figure.

## Results

### FTIR Spectrum Analysis

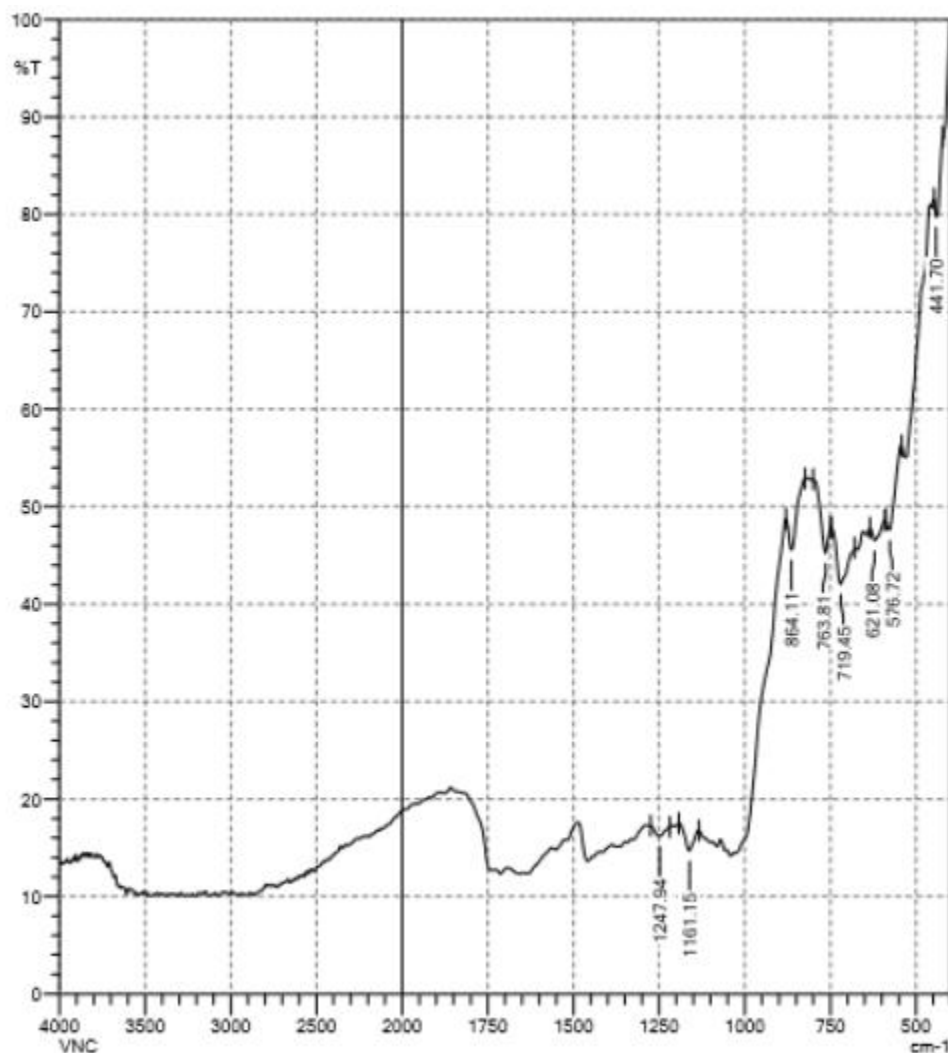


Image of FTIR Spectrum

## FTIR data interpretation of VC

Wave number (cm-1)	Vibrational modes of vc in IR region	Functional group
1247.94	C-O Stretch	Alcohol, esters, ether, carboxylic acid.
1161.15	C-N	Amines
763.81	C-X	Chloride
864.15	C-H Stretch	Aromatic
621.02	C-H Stretch	Aromatic
576.72	C-Br Stretch	Halogen Compound
441.70	C-X	Bromide, Iodide

## Discussion

In FT-IR Spectra analysis, this sample venthaya chooranam was identified to have 7 peak value at 1247.94, 1161.15, 864.15, 621.02, 576.72, 441.70 having C-O, C-N, C-X, C-H, C-H, C-Br, C-X. This indicates the presence of some organic functional group such as Alcohol, esters, ether, carboxylic acid, Amines, Chloride, Aromatic, Aromatic, Halogen Compound, Bromide, iodide. The presence of Amines compound to treat the GIT problems. Amines Play an important role in reducing abdominal pain and bloating. The presence of other functional group in *Venthaya chooranam* are also responsible for their therapeutic function.

## Conclusion

In this paper, above results from the FTIR – Characterization helps to standardize the *siddha* poly herbal formulation “*Venthaya chooranam*” regarding its functional groups. The presence of functional group amines is majorly indicates have analgesic activity.

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