

**SCIENTIFIC VALIDATION OF STANDARDIZATION OF LINGA CHENDURAM  
THROUGH THE SIDDHA AND MODERN TECHNIQUES**

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**ABSTRACT**

Siddha medicine presently practiced predominantly in South India. In practice, generally the plants used are often in the compound from to which either herbs, metals, minerals and animals products are added. The main aim of the present study is to standardize Linga Chenduram, a nano sized formulation and also to characterize the same by using Sophisticated techniques like FTIR(Fourier Transform Infra –Red) and X-ray diffraction (XRD).

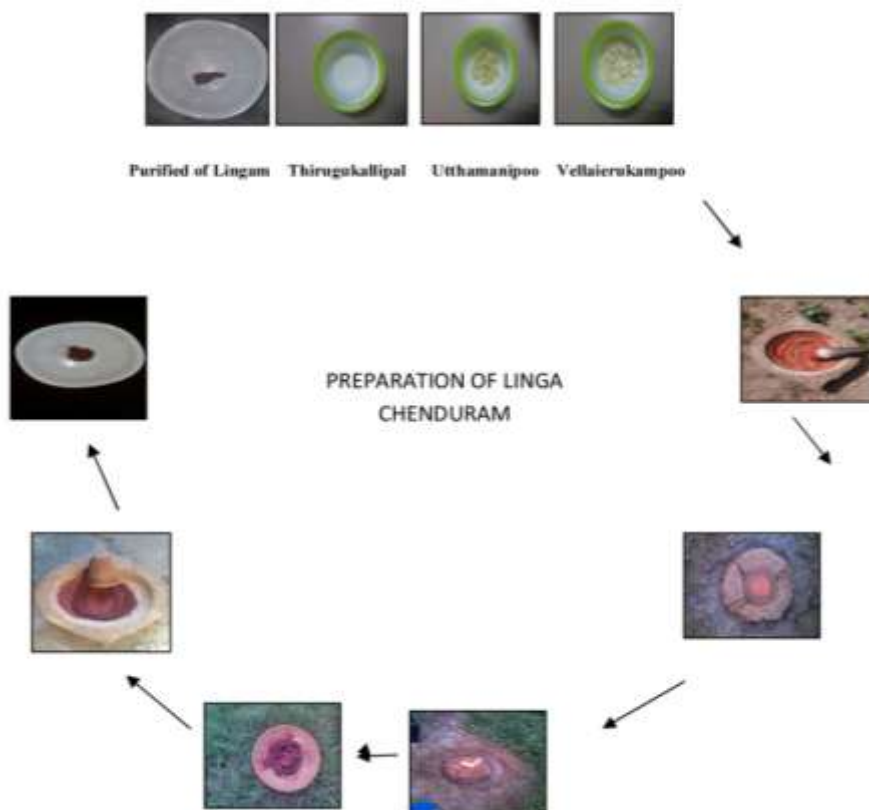
**KEYWORDS:** Linga Chenduram (Lc), FTIR, XRD.

**INTRODUCTION**

Siddha medicine is a form of south Indian Tamil traditional medicine. This system of medicine was popular in ancient India. The system is believed to be developed by the Siddhars, the ancient supernatural spiritual saints of India and the Siddha system is believed

to be handed over to the Siddhar by the Hindu God-Lord Shiva and Goddess Parvathi. Siddhars Total Numbers are eighteen in them Agathiyar is the First Siddhar. The Siddhars wrote their knowledge in palm leaf manuscripts, fragments of which were found in different parts of South India.

**MATERIALS AND METHODS**



In the present study, Herbo Metallic preparation Linga Chenduram has been selected to establish its standardization status from the classical siddha literature ("Anupoga Vaithya Navaneetham vol IV'-Hakim Pa.Mu. Abdullah Saibu. Page No:51). The ingredients of linga chenduram are four in number. They are purified of lingam, Thirugukallipal, Utthamanipoo and Vellaierukampoo.

#### Details regarding FT-IR (Fourier Transform Infra – Red) analysis

FT-IR spectra were recorded at SAIF, IIT Madras, India. The Perkin Elmer Spectrum one Fourier transform (FTIR) Spectrometer was used to derive the FT IR Spectra of Linga Chenduram in potassium bromide

(KBR) matrix with scan rate of 5scan per minute at the resolution 4cm-1 in the wave number region 450-4000cm-1. The samples were grounded to fine powder using agate motor and pestle and the mixed with KBR. They were then pelletized by applying pressure to prepare the specimen (the size of specimen about 13 mm diameter and 0.3 mm in thickness) to recorded the FT-IR Spectra under standard conditions. FT-IR Spectra were used to determine the presence of the functional groups and bands in the Linga chenduram. The recorded spectrum shows in figure.

#### Details regarding XRD analysis

The XRD studies was done in IIT madras by using Bruker discover D8 X ray diffractometer.

### RESULTS

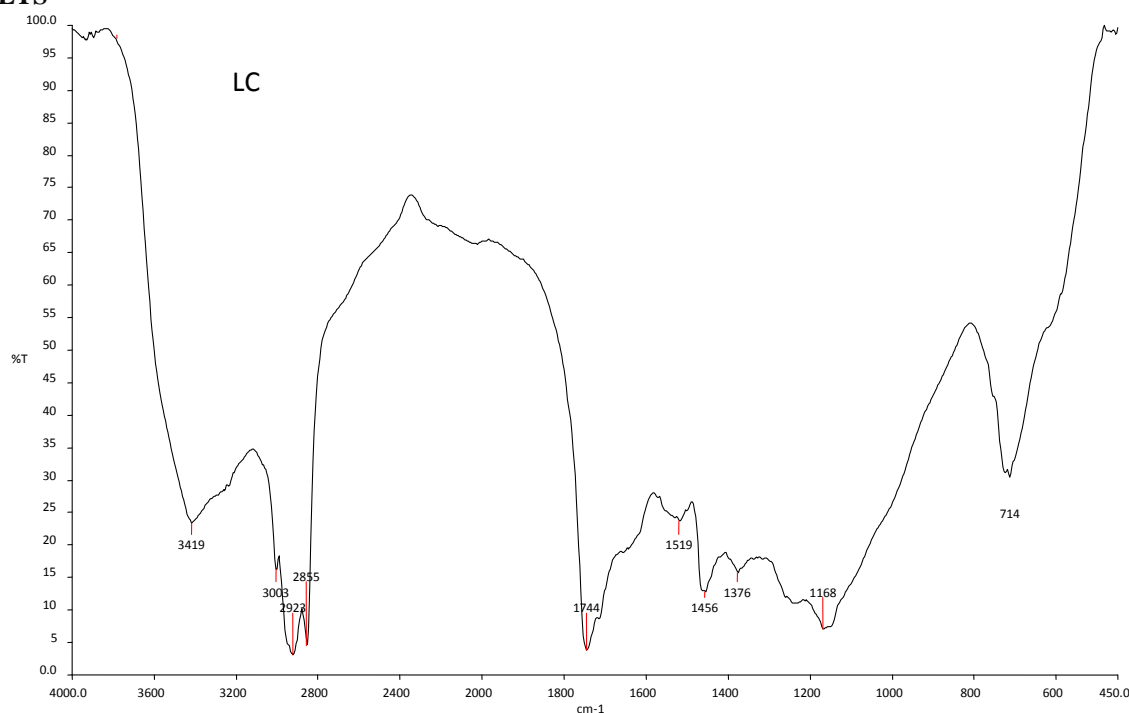


Chart 1. FTIR analysis for Linga Chenduram.

Table 1: FTIR interpretation for Linga Chenduram

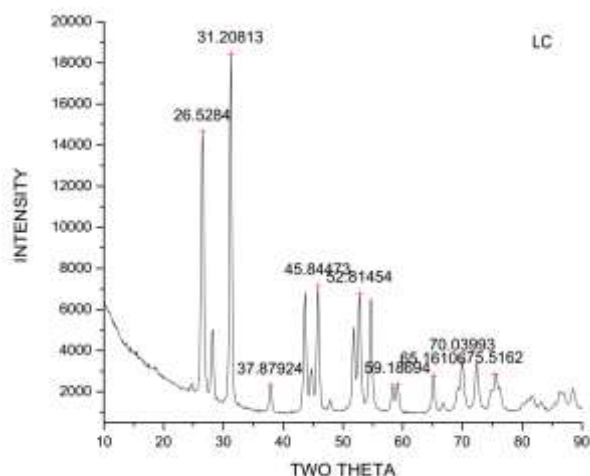
Wave numbers	Vibrational modes of LC in IR region	Functional groups
3419	N-H STRETCH (1 per N-H bond)	AMINES
3003	O-H STRETCH	CARBOXYLIC ACID
2923	C-H STRETCH	ALKANES
2855	C-H STRETCH	ALKANES
1744	C=O STRETCH	ESTERS
1519	N-H BEND	ESTERS
1376	C-F STRETCH	ALKYL HALIDES
1168	S=O STRETCH	SULFONES
714	C-CL STRETCH	ALKYL HALIDES

### RESULT

In the FT-IR analysis this Linga Chenduram sample exhibits the peak value shows in table at the wave number of 3419, 3003, 2923, 2855, 1744, 1519, 1376, 1168, 714 having N-H Stretch, O-H stretch, C-H stretch,

C=O stretch, C-F stretch, S=O stretch. This indicates the presence of same organic functional groups such as **Amines, Carboxylic Acid, Alkanes, Esters, Amide, Alkyl Halides, Sulfones.**

### XRD Analysis For Linga Chenduram Result of XRD



The obtained XRD clearly indicates that the given sample Linga Chenduram Crystalline nature.

### CONCLUSION

The effect of Linga Chenduram in FT-IR analysis confirms the presence of functional groups such as **Amines, Carboxylic Acid, Alkanes, Esters, Amide, Alkyl Halides, Sulfones** is shown on table 1 & chart 1.

The effect of Linga Chenduram in XRD analysis confirms that the drug is crystalline in nature is shown on chart 2. Hence it ensured the efficacy of Linga Chenduram established the fingerprint for standardization of the effective metal formulation.

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