

**INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN
CHEMISTRY AND PHARMACEUTICAL SCIENCES**

(p-ISSN: 2348-5213; e-ISSN: 2348-5221)

www.ijcrpps.com

DOI:10.22192/ijcrpps

Coden: IJCROO(USA)

Volume 4, Issue 2 - 2017

Research Article



DOI: <http://dx.doi.org/10.22192/ijcrpps.2017.04.02.007>

**Analysis and characterization of the traditional siddha
formulation Chanda Marutha Chenduram through Fourier
Transform Infra-Red Spectroscopy**

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Abstract

Chanda Marutha Chenduram is indicated as one of the best medicine in Siddha System.. It is widely used as a drug of choice for the treatment of Arthritis, Hemiplegia, Paralysis, Delirium, Fevers and Syphilitic sores. Here Chanda Marutha Chenduram was subjected into characterization through FT-IR analysis. The results showed that this Chanda Marutha Chenduram constitutes O-H stretch, C-H stretch, C=C stretch, C-N stretch, =C-H bending, C-I stretch which indicates there is a presence of organic functional groups such as Amines, Alcohol, Acid, Alkanes, Aromatic, Alkyl Halide.

Keywords: FT-IR Chanda Marutha Chenduram, herbo Metallic, Siddha drug, Characterization.

Introduction

Siddha system is one of the oldest system of medicine in india. The term siddha means achievements and siddhars were saintly persons who achieved results in medicine. According to Siddha System of Medicine all the objects in this world either living or non-living are composed of five elements (Pancha Bootham) namely Earth – Man, Water –Neer, Fire – Thee, Air-Katru, Ether –Aahayam. According to Siddha the health of human body is maintained by three vital fores (Uyir Thathukkal) namely, Vatham, Pitham & Kabam which are functional by the influence of Pancha Boothams. Siddha Medicine incorporates wide usages of heavy metals & minerals for curing chronic illness. The Scientific evaluation is needed to validate its preciousness.

Materials and Methods

In the present study, Herbo-Metallic preparation Chanda Marutha Chenduram has been selected to establish its standardization status from the classical Siddha literature.

FT-IR Analysis:

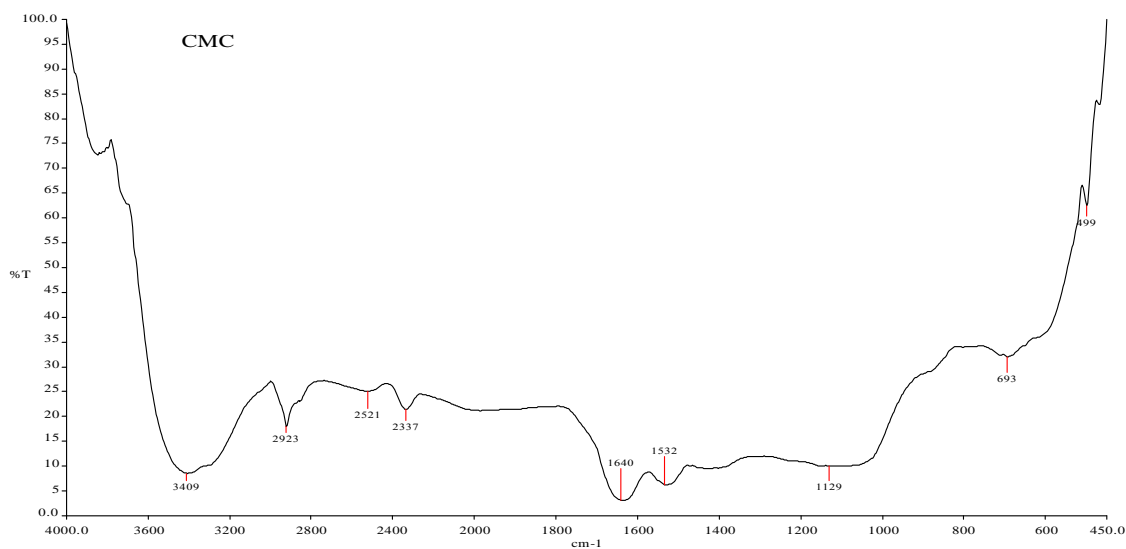
FT -IR spectra were recorded at SAIF IIT Madras, India. The Perkin Elmer spectrum one fourier transform infra - red spectrometer was used to derive the FT-IR spectrum of chanda marutha chenduram of in potassium bromide (KBr) matrix with scan rate of 5 scan per minute at the resolution of 4cm⁻¹ in the wave number region 450 - 4000cm⁻¹

NO	Siddha Name	Scientific Name	Quantity
1.	Veeram	Hydragyrum perchloride	½ part
2.	Gandhagm	Elemental Sulphus	½ part
3.	Rasa Chenduram	Red oxide of Mercury	½ part
4.	Pooram	Hydrargyrum Subchloride	1 part
5.	Lingam	Red Sulphide of mercury	2 part
6.	Lime	Citrus	Q.S



Figure 1 Image of Chanda marutha chenduram

Results



Fourier Transform Infra-Red Spectroscopy (FT-IR)

Wave length	Type of vibration	Functional group
3409	O-H stretch	Amine
	O-H stretch, H bonded	Alcohol
2923	C-H stretch	Alkane
2521	O-H stretch	Acid
1640	C=C stretch	Alkane
1532	C=C stretch	Aromatic
1129	C-N stretch	Amine
693	=C-H Bending	Alkane
499	C-I stretch	Alkyl – halide

In the FT-IR analysis this Chanda marutha Chenduram sample exhibits the peak value shows in Table at the wave number of 3409,2923,2521,1640,1532,1129,693,499 having O-H stretch, C-H stretch, C=C stretch, C-N stretch, =C-H bending, C-I stretch. This indicates the presence of same organic functional groups such as Amines, Alcohol, Alkanes, Acid, Aromatic, Alkyl-Halide.

Discussion

From the results the C=C stretch at 1640 indicates as strong of Calcium Phosphate, Calcium Nitrate, Calcium Tungstate, Sodium Selenite, Sodium Phosphate, Sodium Cyanide, Magnesium Phosphate, Magnesium Metaborate, Sodium Orthoarsenate the =C-H bending at 693 indicates Sodium Metavante. So, majorly this sample Chanda Marutha Chenduram contains Sodium, Calcium & Magnesium compounds overall observation in the sample Chanda Marutha Chenduram is predominantly Alkane in nature.

Conclusion

Chanda Marutha Chenduram is a commonly prescribing Siddha herbo Metallic formulation used many years for Arthritis, Hemiplegia paralysis, delirium, fevers and syphilitic sores. The presence of sodium compounds majorly and all other compounds like calcium, magnesium will help to treat human disease. The standardization & elemental analysis of the Siddha Formulation were studied the encouraging study reports showed that the prepared formulation would be adding evidence for the curative effects of prescribing this medicine since ancient years. This study outcome will be boon for the young indigenous


medical & herbal researchers. It will be initiative step in the field of standardization of Siddha drugs for global acceptance.

Acknowledgments

The authors wish to thank The Vice Chancellor, The Tamilnadu Dr.MGR medical university, Guindy, chennai and to Indian Medicine and Homoeopathy Department, Arumbakkam, chennai and specially thank the Principal and Vice Principal, Government Siddha Medical College, Palayamkottai and to Late Dr.A.M.Raj H.M.P ,A.Jeyamary and R.Arputha rani , I express my sincere thanks to Dr.S.Sundari , Dr.K.Arunachalam.

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Access this Article in Online	
	Website: www.ijrcrps.com
	Subject: Chemistry
Quick Response Code	
DOI: 10.22192/ijrcrps.2017.04.02.007	

How to cite this article:

Aruljothi R, Thiruthani M. (2017). Analysis and characterization of the traditional siddha formulation Chanda Marutha Chenduram through Fourier Transform Infra-Red Spectroscopy. Int. J. Curr. Res. Chem. Pharm. Sci. 4(2): 29-31.

DOI: <http://dx.doi.org/10.22192/ijrcrps.2017.04.02.007>