
INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN BIOLOGY AND MEDICINE

ISSN: 2455-944X

www.darshanpublishers.com

DOI:10.22192/ijcrbm

Volume 3, Issue 6 - 2018

Original Research ArticleDOI: <http://dx.doi.org/10.22192/ijcrbm.2018.03.06.006>

FTIR Characterization of siddha medicine for Pirandai Uppu

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Abstract

Though siddha medicines having high therapeutic value their standardization is essential to get wider knowledge about the drug for extensive safe use worldwide. Characterization plays a major role to identify the nature of the drug standardization. FTIR characterization will help to determine the functional compounds of the drug. Siddha medicine for Pirandai Uppu was subjected into characterization through sophisticated analytical equipment. FTIR to identify the presence of functional groups. The presence of some functional group such as primary, Secondary Amines, Amides, (aldehyde), Aldehydes, Halides, Alkene Nitro, Fluorides, Aromatic, Chloride, Bromide, Iodine were identified in the siddha medicine of compound formulation of Pirandai Uppu. If further research will be followed by the results based on this research work, it helps to utilize the medicinal effect of this siddha drug clinically in a safe manner.

Keywords: Siddha medicine, Pirandai Uppu, FTIR.

Introduction

Siddha science is an ancient medical system for mankind. Siddha medical system is based on various amazing principles such as Theory of Arusuvai, Theory of Panchabootham, Concept of 96 Thathuvangal (96 principles), Concept of Naddi and so on. Based on these type of specialized concepts such as principles of Arusuvai, Panchabootham siddha medicine was formulated to treat various disease. Though it consider that the compound formulations are always safe, scientific validation is essential nowadays because of our changing environmental condition. Some modern analytical equipments are helpful to get knowledge regarding the traditional medicinal compound formulations. FTIR characterization was done for the compound

formulations of Pirandai Uppu to evaluate the functional group identification. Thus can create Finger prints to standardize this medicinal formulation.

Materials and Methods

Details regarding the sample of Pirandai Uppu.

“Pirandai Uppu is a siddha compound formulation has the ingredients of Pirandai Uppu (*Cissus Quadrangularis*)

Kariuppu (Sodium Chloride). The drug was prepared as per the siddha literature of “Siddha Pharmacopeia of India”.

Ingredients of Pirandai Uppu:

Pirandai



Sodium Chloride

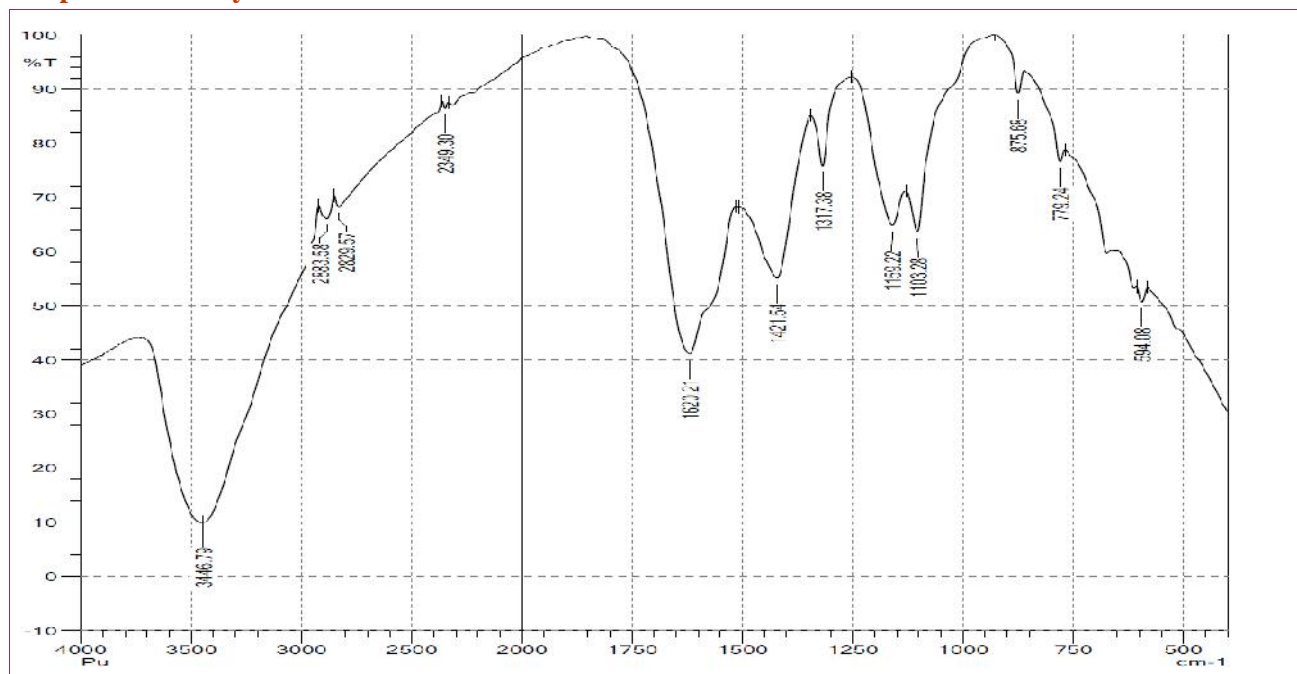


Pirandai Uppu



Results

FTIR Spectrum Analysis



FTIR data interpretation of PU

Bond	Type of vibration	Wave number range(cm ⁻¹)
N-H	Primary & secondary Amines & Amides(stretch)	3446.79
C-H	Aldehydes	2883.58
C-H	Aldehydes	2829.57
C-X	Halides	2349.30
C=C	Alkene	1620.21
N=O	Nitro(R-No)	1421.54
C-X	Fluoride	1317.38
C-X	Fluoride	1159.22
C-X	Fluoride	1103.28
C-H	Aromatic(out-of-plane bend)	875.68
C-X	Chloride	779.24
C-X	Bromide, Iodine	594.08

Discussion

The FT-IR spectrum analysis, this sample Pirandai Uppu exhibits the peak value at 3446.79, 2883.58, 2829.57, 2349.30, 1620.21, 1421.54, 1317.38, 1159.22, 1103.28, 875.68, 779.24, 594.08 having N-H primary & secondary Amines & Amides (stretch) C-H Aldehyde, C-H Aldehydes, C-X Halides, C=C Alkene, N=O Nitro(R-NO), C-X Fluoride, C-X Fluoride.

C-H Aromatic(out-of-plane bend), C-X Chloride, C-X Bromide, Iodine. The presence of Nitro compounds indicates that the drug can be used to treat against infectious conditions. Likewise the presence of other these identified functional groups in medicinal compound are also responsible for their therapeutic function.

Conclusion

Traditional medicines are always provides higher therapeutic use without causing any harmful effects. Scientific validation of traditional medicines through standardization with provide the knowledge regarding the mechanism of drug action. These FTIR characterization findings on siddha drug "Pirandai Uppu" creates finger prints to standardize this drug. These results may form the base for further structural determination of this compound siddha formulation "Piandai Uppu".

Acknowledgments

The author wish to thank the Vice Chancellor, The M.G.R. Medical University, Guindy, Chennai and to Indian Medicines and Homeopathy Department, Arumbakkam Chennai and special thanks to the Principal, Government Siddha Medical College, Palayamkottai and to Dr.A.Kingsly, MD(s), HOD, Dr.G.Esacky Pandian, MD(s), Lecturer Dr.R. Antony Duraichi, MD(s), Lecturer, Government Siddha Medical College, Palayamkottai.

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How to cite this article:

M. Uma Maheswari, A. Kingsly, G. Esakypandian, R. Antony Duraichi. (2018). FTIR Characterization of siddha medicine for Pirandai Uppu. Int. J. Curr. Res. Biol. Med. 3(6): 21-23.

DOI: <http://dx.doi.org/10.22192/ijcrbm.2018.03.06.006>