INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN CHEMISTRY AND PHARMACEUTICAL SCIENCES

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

www.ijcrcps.com

DOI: 10.22192/ijcrcps Coden: IJCROO(USA) Volume 5, Issue 6 - 2018

Research Article

DOI: http://dx.doi.org/10.22192/ijcrcps.2018.05.06.008

FTIR characterization of Siddha medicine Thirikadugu chooranam with the comparison of Sukku, Milagu, Thipili.

C. Thulasi[1], R. Durgadevi[2], Dr. A. Kingsly[3], Dr.G. Essakkypandian[4], Dr.A. Antony Duraitchi[4].

[1]PG Scholar, Department Of Gunapadam, Government Siddha Medical College, Palayamkottai, Tamil Nadu,India.

[2]PG Scholar, Department Of Gunapadam, Government Siddha Medical College, Palayamkottai, Tamil Nadu,India.

[3]Reader, Head Of The Department,Department Of Gunapadam, Government Siddha Medical College, Palayamkottai,Tamil Nadu,India.

[4]Assitant Lecturer, Department Of Gunapadam, Government Siddha Medical College, Palayamkottai, Tamil Nadu India.

Abstract

Siddha medicine is an ancient medicine, the sidhhars used the preparations. Nowadays the scientific evaluation of the siddha medicine is needed, therefore the study of FTIR characterization of the drug is mentioned the functional groups. The siddha drug 'thirikadugu chooranam'is subjected to the FTIR analysis and the ingredients of the drug thirikadugu chooranam is sukku, milagu,thipili also subjected into the FTIR analysis. This may compared by the functional groups.

Keywords: siddha medicine, thirikadugu chooranam, ingredients, sukku,milagu, thipli, FTIR, functional groups

Introduction

Siddha medicine is a traditional medicine followed by siddhars.Siddha system is having lot of medicine to treat human disease. In most of the developed and developing countries people are affected by many disease by the life style modification. These medicines prevent the disease, so the efficacy of the medicine is must be described in the scientific methods. This study is done to record the functional groups of the test sample of the thirikadugu chooranam, and the ingredients of the thirikadugu chooranam.

Materials and Methods

Details regarding the sample:

Sample 1: Thirikadugu chooranam:

The drug 'thirikadugu chooranam' was prepared as per the siddha literature ' parathathil marunthu seimuraigal. Page no 319. for the treatment of, loss of appitate, abdominal pain, flatulence, cough, fever.

Sample 2,3 & 4:

The samples 2,3 and 4 are the ingredients of thirikadugu chooranam such as sukku, milagu and thippili respectively.

Details regarding the analysis:

FTIR spectra were recorded at IRC at kalasalingam university. Tamilnadu. The perkine elmer spectrum one FTIR spectrometer was used to derive the FTIR spectra of ‘ thirikadugu chooranam’ in potassium bromide (KBr) matrix with scan rate of 5 scan per minute at the resolution 4cm^{-1} in the wave number region 450 – 4000 cm^{-1} . the samples were grounded to fine powder using agate motor and pestle and then mixed with KBr. They were then pelletized by applying pressure to prepare the spectrum (the size of speciaman about 13mm diameter and 0.3mm in thickness) to record the FTIR spectra under standard conditions. The FTIR spectra were used to determine the presence of functional groups and bands in the ‘thirikadugu chooranam

Results

Thirikaduku Chooranam

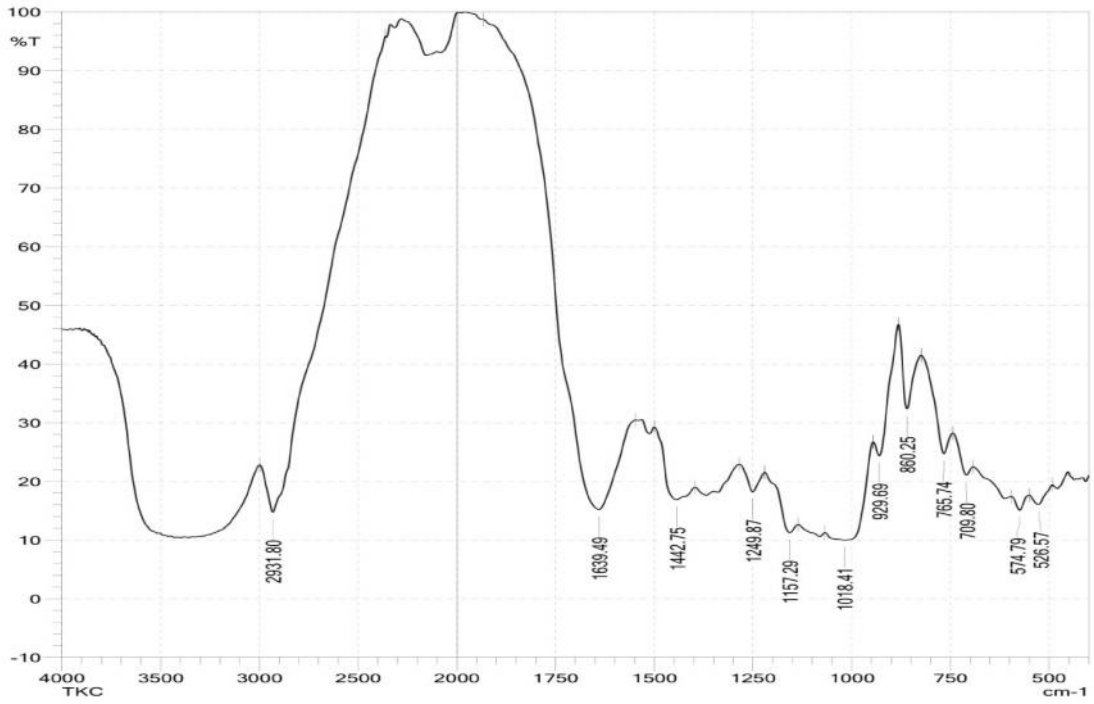

Table 1: wave number and functional groups of thirikadugu chooranam

Wave number	Vibrational modes of thirikadugu chooranam in IR region	Functional groups
2931	C-H	Alkane
1639	C=C	Alkane
1442	N=O	Nitro(R-No_2)
1249	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
1157	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
1018	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
929	C-H	Alkane
860	C-H	Alkane
765	C-H	Alkane
709	C-H	Alkane
574	C-X	Chloride
526	C-X	Chloride

Sukku:

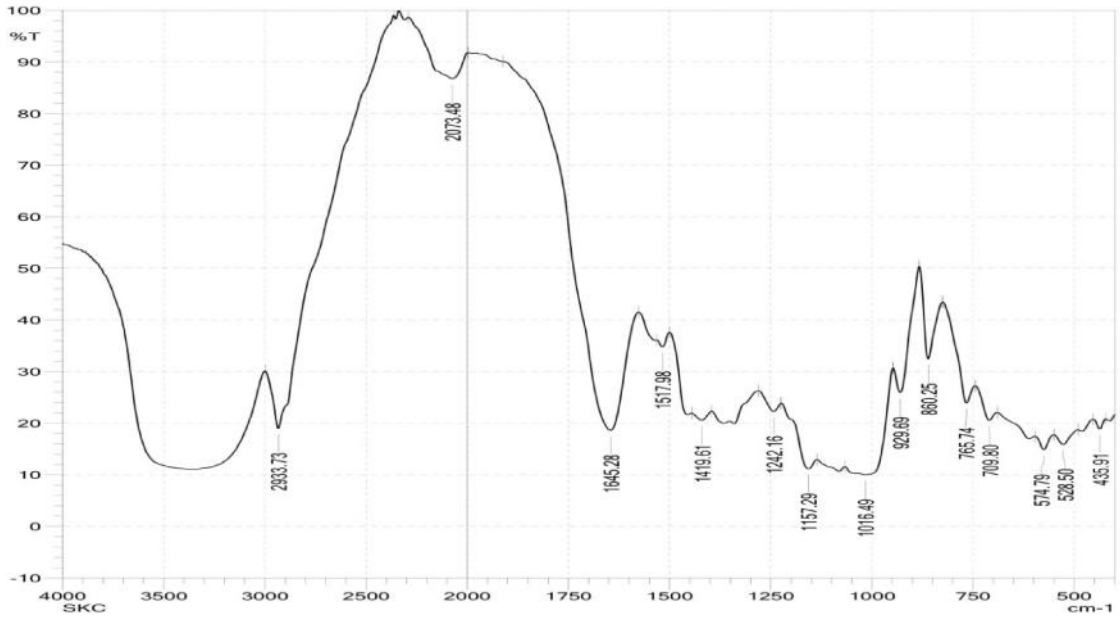

Table 2: wave number and functional groups of sukku chooranam

Wave number	Vibrational modes of sukku chooranam in IR region	Functional groups
2933	C-H	Alkane
2073	-	No compound
1645	C=O	Amide
1517	C=C	aromatic
1419	N=O	Nitro(R-NO_2)
1242	N=O	Nitro(R-NO_2)
1157	C-X	fluoride
1016	C-N	amines
929	C-H	alkene
860	C-H	aromatic
765	C-X	chloride
709	C-X	chloride
574	C-X	chloride
528	C-X	Bromide,iodide
435	C-X	Bromide,iodide

Milagu:

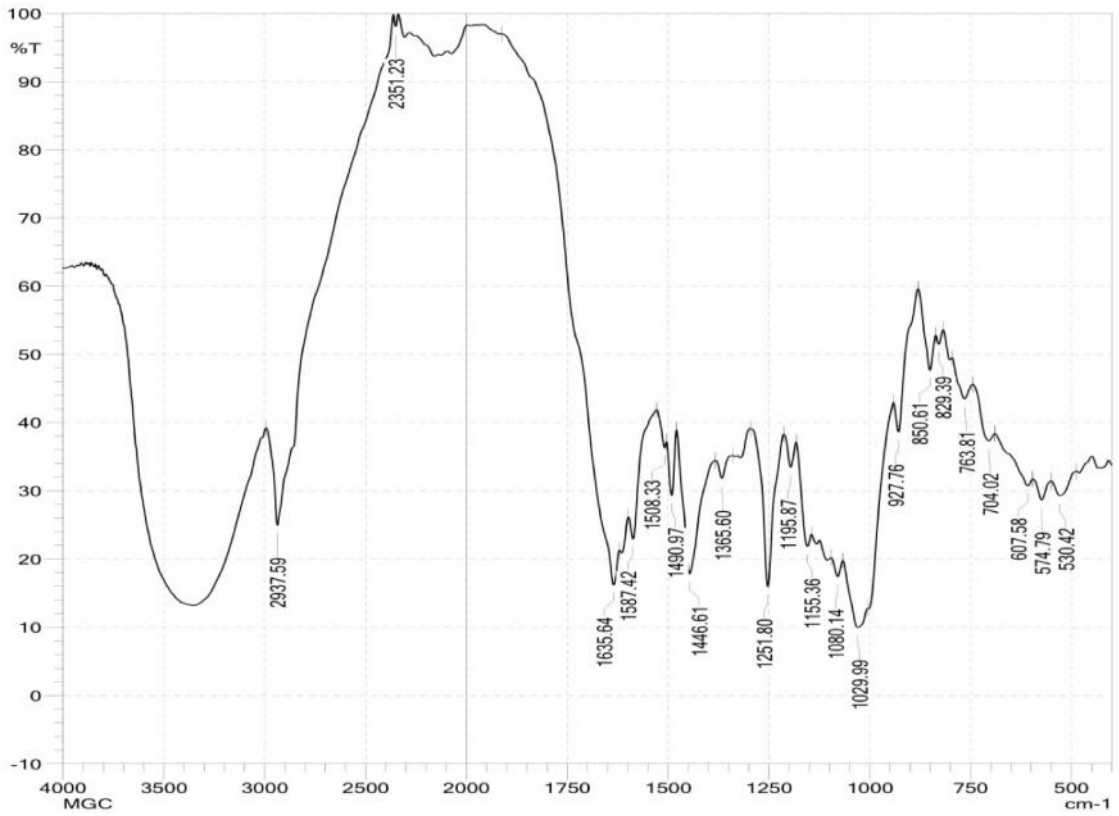

Table 3: wave number and functional groups of milagu chooranam

Wave number	Vibrational modes of milagu chooranam in IR region	Functional groups
2937	C-H	Alkane
2351	-	No compound
1635	C=C	Alkene
1587	N-H	Primaryand secondary aminesand amides
1508	-	No compound
1490	N=O	Nitro (R-NO_2)
1446	N=O	Nitro (R-NO_2)
1365	N=O	Nitro (R-NO_2)
1251	C-N	Amines
1195	C-X	fluoride
1155	C-X	fluoride
1080	C-X	fluoride
1029	C-X	fluoride
927	C-H	Alkene
850	C-H	aromatic
829	C-H	aromatic
763	C-X	chloride
704	C-X	chloride
607	C-X	chloride
574	C-X	chloride
530	C-X	Chloride,bromide&iodide

Thipili:

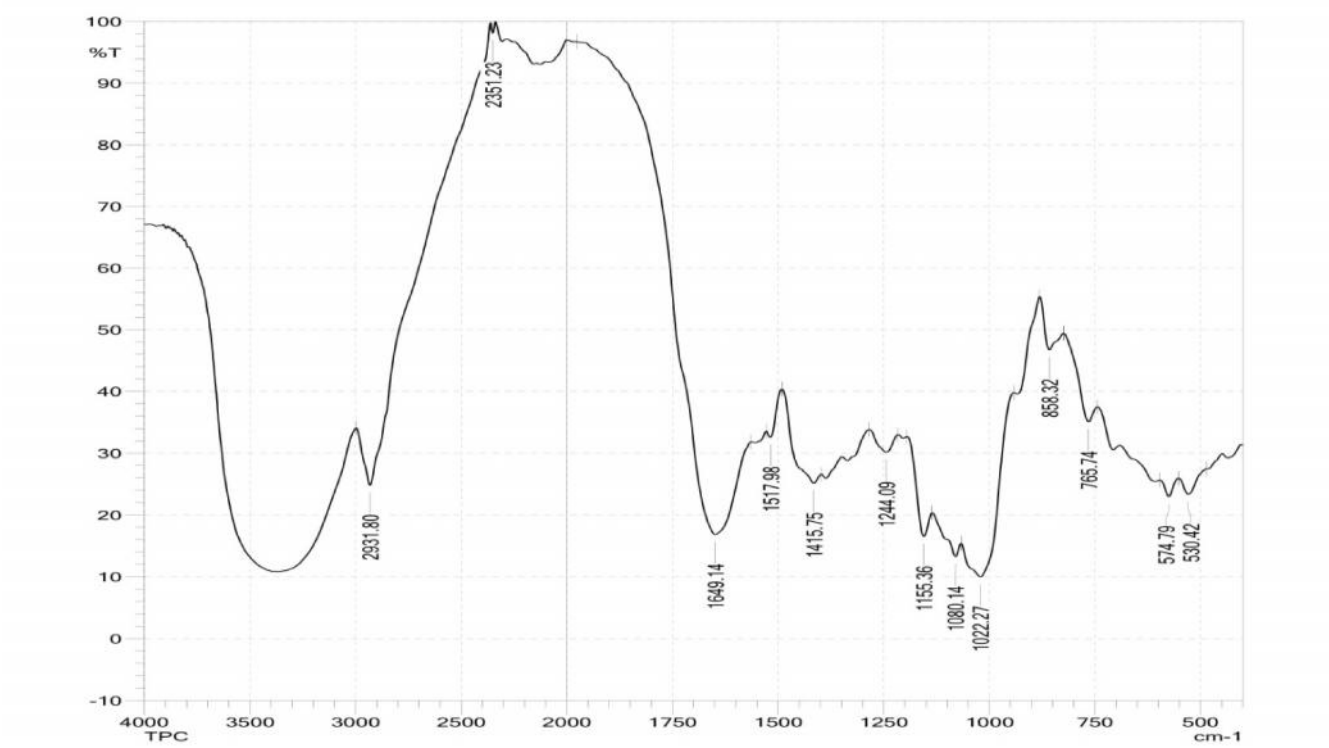

Table 4: wave number and functional groups of thipili chooranam

Wave number	Vibrational modes of thipili chooranam in IR region	Functional groups
2931	C-H	Alkane
2351	-	No compound
1649	C=N	Imines& oximes
1517	N=O	Nitro (R-NO_2)
1415	C-H	-CH_3
1244	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
1155	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
1080	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
1022	C-O,C-N,C-X	Alcohols,esters,ethers,carboxylic acid,anhydrides,amines,fluoride.
858	C-H	Aromatic
765	C-H,C-X	Aromatic,chloride
574	C-X	Chloride
530	C-X	Chloride, bromide,iodide

Discussion

In the FTIR spectrometer analysis, the sample of thirikadugu chooranam exhibits the peak value shows in table 1. This indicates the presence of some organic functional groups such as alkane, nitro (R-NO_2), alcohols,esters,ethers,carboxylic acid, anhydride, fluoride,amines,chloride.

Smple of sukku chooranam exhibits the peak value shows in table 2. This indicates some organic functional groups alkane, amide,aromatic,nitro(R-NO_2), fluoride,amines,chloride.

Sample of milagu chooranam exhibits the peak value shows in table 3. This indicates some organic functional groups alkane, amide,aromatic,nitro(R-NO_2), fluoride,amines,chloride.

Sample of thipili chooranam exhibits the peak value shows in table 4. This indicates some organic functional groups alkane, amide,aromatic,nitro(R-NO_2), fluoride,amines,chloride.

Conclusion

Above analysis shows the same functional groups present in the test samples. This study proves that the herbal drugs sukku, milagu, thipili contain similar functional groups which is also present in the siddha formulation thirikadugu chooranam. So the herbal formulation of thirikadugu chooranam is more effective when compared to other herbal drugs. Further research work would be carried out the following finding. It will highly beneficial to the medical world.

Acknowledgments

The authors wish to acknowledge our hearty thanks to the principal, government siddha medical college, palayamkottai, and my parents. & my sister Dr.R.Meera. For their full support to complete this study

References

1.Parathathil marunthu seimuraigal , Ka. Su. Uthamarayan. page no.319.
2.Agasthiyar paripooranam-400,R.C Mohan page no.107
3.K.S. Murugesa mudhaliar,gunapadam mooligai vagupu,2003 edition

Access this Article in Online

Website: www.ijcrcps.com

Subject: Siddha Medicine

Quick Response Code

DOI: 10.22192/ijcrcps.2018.05.06.008

How to cite this article:
C. Thulasi, R. Durgadevi, A. Kingsly, G. Essakkypandian, A. Antony Duraitchi. (2018). FTIR characterization of Siddha medicine Thirikadugu chooranam with the comparison of Sukku, Milagu, Thipili.. Int. J. Curr. Res. Chem. Pharm. Sci. 5(6): 37-42.
DOI: http://dx.doi.org/10.22192/ijcrcps.2018.05.06.008