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Spectroscopic Study on Siddha Medicine Amai Odu Parpam

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Abstract

The Siddha medicine is a branch of medicinal field which receives greater attention nowadays because of its immediate and permanent cure without any side effects. This paper deals with an analysis of Siddha medicine namely "Amai Odu Parpam" by using UV-visible spectroscopy and Constant deviation spectrograph. The study reveals that this medicine contains calcium, iron, silicon and sodium.

Keywords: Amai Odu Parpam, UV spectroscopy, constant deviation spectrograph

Introduction

The field of medicine has various branches such as allopathy, homeopathy, naturapathy, physiotherapy and siddha. Eventhough, Allopathy gives immediate cure, it has side effects. So, people prefer other types of medicines. In case of homeopathy, it cures the diseases permanently without any side effects but it takes a long time to get complete cure. So, people are not having that much patience to follow homeopathy. Because of these, Siddha medicine receives greater attention nowadays since it gives immediate and permanent cure without any side effects. The effect of siddha medicines Sirungi parpam and Nandukkal parpam purchased from Gandhigram Lakshmi Seva Sangham siddha unit has been already reported[1-2]. Therefore, one of the siddha medicines namely "Amai Odu Parpam" have been chosen for the present study. This medicine Amai Odu Parpam is mainly used for curing primary complex in children[3]. This paper deals with an attempt to analyse Amai Odu Parpam by using UV spectroscopy and constant deviation spectrograph from physicist point of view.

Material and mMethods

The Siddha medicine "Amai odu Parpam" has been purchased from Gandhigram Lakshmi Seva Sangham siddha unit and used as such for the present study. The UV-Visible spectrum of the sample has been recorded in the region of 200-800 nm using Perkin Elmer-Lamda35 model UV spectrophotometer and is shown in figure1. The emission spectrum of constant deviation spectrograph has been recorded and the emission lines have been indexed by using reported standard values[4].

Results and Discussion

The UV-Visible spectrum of the medicine is shown in figure 1. The observed wavelengths of the absorption peaks are tabulated in table1. Since the medicine is mainly prepared from tortoise shell, it is expected that the major element present in this may be calcium. Since this medicine is prepared by calcination process, the element may be present in higher oxide form. But calcium oxide is not stable on exposure to air and the most stable form is calcium carbonate[3]. So, the UV spectrum of calcium carbonate has been recorded and the observed wavelengths of absorption peaks are found to be in good agreement with each other as shown in table 1 confirming the presence of calcium carbonate in the medicine. The Amai Odu Parpam is mainly given for bone related diseases such as primary complex in children. So, Calcium present in the medicine helps to strengthen the bone and cure the disease permanent.

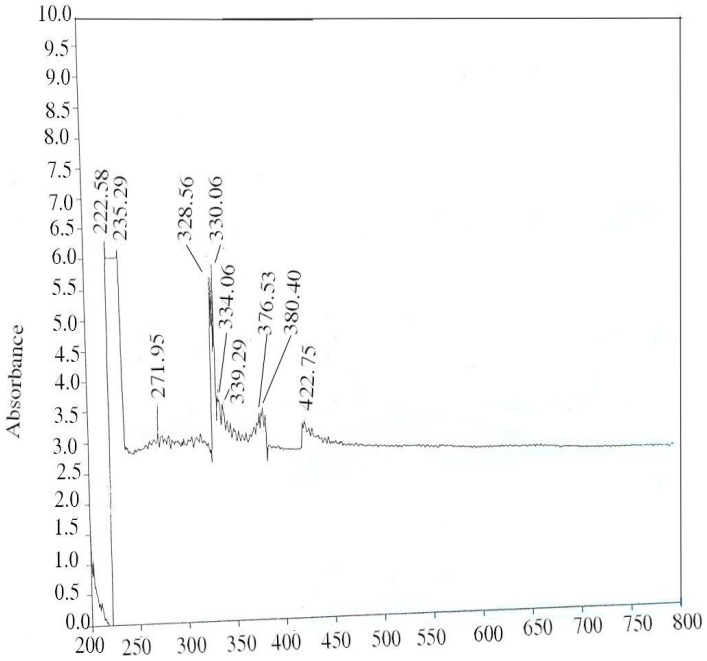

Figure-1
The UV-VISIBLE spectrum of Amai Odu Parpam

Table-1
The Observed wavelengths of absorption peaks of the medicine "Amai Odu Parpam" obtained from UV -Vis spectrum is compared with that of Calcium Carbonate

Sl.No	Wavelengths of Observed Absorption Peak (in nm)	
	Amai Odu Parpam	$CaCO_3$
1.	222.58	-
2.	235.29	233.42
3.	271.95	272.22
4.	328.56	328.10
5.	330.06	330.55
6.	334.06	334.05
7.	339.29	339.84
8.	376.53	375.98
9.	380.40	378.50
10.	422.75	-

But, it is notable from table 1 that some of the absorption peaks present in the medicine are not indexed which confirms the presence of some other elements. So, in order to find the presence of other elements, the spectrum of constant deviation spectrometer has been recorded.

Most of the observed wavelengths of the emission lines obtained from the spectrum of constant deviaton spectrograph are indexed as shown in table2 and they are found to be in good agreement with the reported standard values[5]. The study of constant deviation spectrograph confirms the presence of calcium, iron, silicon and sodium in this Amai Odu Parpam.

It is clear from the table 2 that the medicine is having calcium and iron as major components. This may be due to the presence of calcium and iron in the tortoise shell by nature. Moreover, alkaline earth solution and lime water are added to the tortoise shell during the preparation[3]. In addition, the tortoise is usually living in sea water. So, these may enriches the medicine with calcium and sodium. It is well known that the calcium strengthens the bones, the iron is responsible for maintaining the Haemoglobin percentage in blood and sodium is responsible for maintaining the water level in our body. The lime water added, helps to absorb iron to our body since it is rich in vitamin c. Thus, the medicine is used for curing the primary complex in children permanently.

It is also notable that the medicine is also containing silicon. This may be due to the preparation of the medicine in the earthern vessel during the calcination process. This is similar to the procedure of doping of silicon in Gallium Arsenide. When the silicon doped GaAs is prepared, Ga and As are heated in Silica ampoules instead of adding silicon directly[6]. So, the Silicon from Silica ampoules will get automatically doped in GaAs. The Silicon content in the medicine also contributes its own advantage. In olden days, ancestors used to say that the food cooked in earthern vessel cools our body and is very good for health. Nowadays, in five star hotels, the food is cooked in earthern vessel for enhancing the taste and hygiene. Moreover, the earthern vessels are acting as filters and protecting the harmful radiations to reach the food. So, the traditional method of the preparation of Siddha medicine in earthern vessel also helps to improve the health and hygine.

Table-2
The Observed wavelengths of emission lines of the medicine Amai Odu Parpam obtained from constant deviation spectrograph is compared with that of standard reported values and the elements present are reported[5]

Sl.No	Wavelengths of Emission lines (Å)		Elements present
	Observed values of Amai Odu Parpam	Standard values [5]	
1.	6063.07	6065.40	Fe I
2.	5933.71	5923.69	Ca II
3.	5347.70	5346.80	Fe III
4.	4968.09	4957.60	Fe I
5.	4911.08	4911.27	Si IV
6.	4582.47	4581.40	Ca I
7.	4481.71	4482.25	Fe I
8.	4463.52	4461.65	Fe I
9.	4360.08	4355.08	Ca I
10.	4322.27	4325.76	Fe I
11.	4314.68	4315.08	Fe I
12.	4307.05	4307.90	Fe I
13.	4287.41	4289.36	Ca I
14.	4280.10	4282.40	Fe I
15.	4272.90	4271.759	Fe I
16.	4264.14	4260.47	Fe I
17.	4252.12	4250.79	Fe I
18.	4222.97	4220.07	Ca I
19.	4213.76	4216.18	Fe I
20.	4204.39	4202.03	Fe I
21.	4178.81	4177.59	Fe I
22.	4169.46	4172.74	Fe I
23.	4161.44	4156.80	Fe I
24.	4150.94	4153.90	Fe I
25.	4137.63	4130.89	Si II
26.	4128.01	4128.07	Si II
27.	4114.84	4113.70	Na II
28.	4105.47	4109.82	Ca II
29.	4061.33	4063.59	Fe I

Conclusions

The analysis of UV spectroscopy and constant deviation spectrograph reveals that the medicine contains calcium and iron as major components and traces of Sodium and Silicon. The calcium strengthens the bone, iron plays an important role for maintaining the Haemoglobin percentage in blood and Sodium helps to maintain the water level in our body. The Silicon also helpful to improve the health and hygiene. The lime water added, helps for the absorbtion of iron to our body. Thus, the medicine Amai Odu Parpam gives immediate and permanent cure to the primary complex in children. Finally, this paper is an

attempt to analyse the Siddha medicine Amai Odu Parpam from the physicist point of view.

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