



மத்திய சித்த மருத்துவ ஆராய்ச்சிக் குழுமம்  
ஆயுஷ அமைச்சகம், இந்திய அரசு, அரும்பாக்கம், சென்னை-106

கேந்திய சித்த அனுஸ்தான பரிஷத்

आयुष मंत्रालय, भारत सरकार  
सित्त केन्द्रीय अनुसन्धान संस्थान भवन, अण्णा सरकारी अस्पताल परिसर, अரुम्पாக்கம், சென்னை - 600106

**CENTRAL COUNCIL FOR RESEARCH IN SIDDHA**

Ministry of AYUSH, Govt. of India

SCRI Building, Anna Govt. Hospital Campus, Arumbakkam, Chennai - 600106

Phone: 2621 1621, 2621 2421 Fax: 044-2621 1621

[www.siddhacouncil.com](http://www.siddhacouncil.com), [www.siddharesearchcouncil.org](http://www.siddharesearchcouncil.org), Email: [ccrschennai@gmail.com](mailto:ccrschennai@gmail.com)

F.No.1-153/2021-22/CCRS/Tech./5SD

3<sup>rd</sup> January, 2022

To

Ms. Shivani. G,  
PI of the Mini Project,  
Santhigiri Siddha Medical College  
Thiruvananthapuram.

Dear Student,

**Sub.: Mini Project Research Grant – Reg.**

With the approval of the scrutinizing committee, I accord the approval for the sanction of mini project research grant in commemoration with the observance of Fifth Siddha Day. In this regard, an amount of Rs.15,000/- (Rupees Fifteen thousand only) for the mini project entitled “A comparative analysis of heavy metals using atomic absorption Spectrometry in Lingam before and after purification using two different purification methods and Linga chendhooram prepared from two differently purified lingam” under UG category will be awarded to the Principal Investigator, Ms. Shivani. G, Santhigiri Siddha Medical College, Chennai.

I hereby direct to adhere the research conduct during execution and abide by the terms and conditions of the Mini project Research Grant of CCRS. The students must publish the outcomes of the mini project in the peer reviewed journal preferably in Journal of Research in Siddha Medicine and not in any other predatory journals.

The grant amount will be released to the Principal of the respective institution upon submission of the Ethical clearance (if relevant to the project) in original.

*16/09/2022*  
Prof. Dr. K. Kanakavalli

Director General

Copy to:

1. The Principal, Santhigiri Siddha Medical College, Thiruvananthapuram.
2. Dr. S. Baskaran, Assistant Professor & Guide of the Mini Project, Santhigiri Siddha Medical College, Thiruvananthapuram.

**AUTHENTICATION CERTIFICATE**

*Certificate No: SSMC/GM/01/2022*

Certified that the following minerals/metals used in purification of “Lingam” & preparation of “Lingam chendhooram” taken up for the CCRS Mini Research Project 2022 by **Miss. Shivani. G, Final Prof. BSMS**, Santhigiri Siddha Medical College, Thiruvananthapuram are correctly identified and authenticated through visual inspection experience, organoleptic characters, morphology, etc.

1. Lingam - Mercuric sulphide

Place: Santhigiri  
Date: 05.03.2022

*Dr. Anil*

Authorized Signatory

*(Dr. S. ETHEL SHINY)*  
LECTURER - HOD INCHARGE  
DEPT OF GUNAPADAM MARUTHIAL

Head of the Department  
Department of Gunapadam Maruthiyal  
Santhigiri Siddha Medical College  
Santhigiri P.O Thiruvananthapuram - 695 589



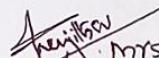
### BOTANICAL CERTIFICATE

Certificate No: SSMC/GM/02/2022

Certified that the following plant drug used in the purification of "Lingam" & preparation of "Lingam chendhooram" taken up for the CCRS Mini Research Project 2022 by **Miss. Shivani. G, Final Prof. BSMS, Santhigiri Siddha Medical College, Thiruvananthapuram** are identified through Visual inspection, Experience, Education & Training, Organoleptic characters, Morphology and Taxonomical methods as

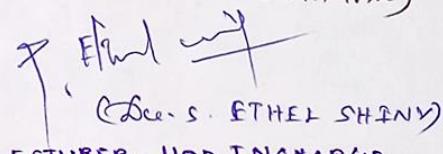
1. *Acalypha indica* Linn. f. (Euphorbiaceae), leaves (Kuppaimeni ilai)
2. *Citrullus colocynthis* Linn. f. (Cucurbitaceae), whole plant (Aatruthumatti samoolam)

Place: Santhigiri  
Date: 05.03.2022

 MRS. RENJITHA V.  
Authorized Signatory

(ASSOCIATE  
PROFESSOR)

(DEPT. OF GUNAPADAM MARUNTHIYAL)

  
Dr. S. ETHEL SHINY  
LECTURER - HOD IN CHARGE

DEPT OF GUNAPADAM MARUNTHIYAL

Head of the Department  
Department of Gunapadam Marunthiyal  
Santhigiri Siddha Medical College  
Santhigiri P.O Thiruvananthapuram - 695 589



Santhigiri P.O, Thiruvananthapuram-695589 ☎ 04712410316, 2410049 ☐ ssmc@santhigirishram.org ☐ www.santhigirishram.org

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# சென்னைப் பல்கலைக்கழகம் UNIVERSITY OF MADRAS

Dr. M. SURESH GANDHI, M.Sc., M.Phil., Ph.D  
PROFESSOR

Department of Geology  
University of Madras  
Guindy Campus  
6th Floor, New Building  
Chennai - 600 025

Date : 24.6.2022

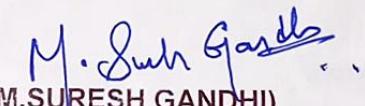
## AUTHENTICATION OF THE MINERAL

Physical Properties of the given specimen

Crystal structure	:	Hexagonal
Molecular Weight	:	232.66 gm
Environment	:	Low temperature hydrothermal solutions in veins
Density	:	8.1
Cleavage	:	1010 perfect
Diaphaneity	:	Transparent to translucent to opaque
Hardness	:	2-2.5
Luminescence	:	Non Fluorescent
Lusture	:	Adamantine
Streak	:	bright red
Reflectivity	:	High

References: NAME( Sinkankas66) PHYS. PROP. (Enc. of Minerals, 2nd ed., 1990) OPTIC PROP. (AntBldBlaNic1)

Based on the Mineral data base, the given samples is identified and authenticated as CINNABAR (Mercuric sulphide) LINGAM.

  
(M. SURESH GANDHI)

Dr M. Suresh Gandhi, M.Sc., M.Phil., Ph.D.  
Professor  
Department of Geology  
University of Madras  
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Chennai - 600 025.

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**ASTHAGIRI HERBAL RESEARCH FOUNDATION**

AYUSH Drug Testing Lab No: 9, Dt: 18/12/2017

SOC Reg. No: 667/2000 ; www.asthgiriherbal.org.in

162-A, Perungudi Industrial Estate, Perungudi, Chennai- 600096

Ph: 044-4205446, 98400 64340, 9003133744

Email: asthagiri.herb@gmail.com, cfo@asthagiriherbal.org.in

**CERTIFICATE OF ANALYSIS**

The results declared pertain only to the sample submitted for testing

**ULR NO: TC103122200000009F**

Test Report No	AHRF/JW5989/AAS/2021-22	Date of Issue	01/04/2022
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<b>Customer details</b>	Shivani .G Final Prof B.S.M.S Santhigiri Siddha Medical College Santhigiri P.O Thiruvananthapuram Kerala - 695589		
<b>Parameters requested by customer for testing</b>	As, Pb, Cd & Hg Analysis	<b>Description of Sample</b>	Powder
<b>Date of the sample received</b>	By Courier 18/03/2022	<b>Date of Analysis</b>	23/03/2022
<b>Sample ID</b>	R	<b>Sample Type</b>	Powder

**Method of Analysis**

<b>Test Method</b>	USP 231 USP 39 NF34
<b>Method of Analysis</b>	
<b>Instrument</b>	AAS
<b>Model</b>	AA200 series
<b>Standard</b>	Inorganic venture Standard Pb, Cd, Hg & As 1000 ppm
<b>Sample preparation for testing</b>	solution 1000 mg/ L sample in 1mol/L HNO <sub>3</sub>
<b>Lambda max</b>	Pb - 217.0 nm Cd - 228.8 nm Hg - 253.7 nm As - 193.7 nm

**Report**

<b>Result of Analysis</b>	<b>Parameters</b>	<b>Results</b>	<b>AYUSH Limits</b>
	As	210.28	3.0 ppm
	Hg	5.95	1.0 ppm
	Cd	0.48	0.3 ppm
	Pb	45.95	10 ppm

Prepared by:

Reviewed by:

Approved by:

  
Technical Manager  
(Dr. Marasimhan)

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 162-A, Perungudi Industrial Estate, Perungudi, Chennai- 600096  
 Ph: 044-42055446, 98400 64340, 9003133744  
 Email: [asthagiri.herbal@gmail.com](mailto:asthagiri.herbal@gmail.com), [cfo@asthagiriherbal.org.in](mailto:cfo@asthagiriherbal.org.in)

**CERTIFICATE OF ANALYSIS**

The results declared pertain only to the sample submitted for testing

**ULR NO: TC103122200000013F**

Test Report No	AHRF/JW/6007/AAS/2022-23	Date of Issue	05/04/2022
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<b>Customer details</b>	Shivani .G Final Prof B.S.M.S Santhigiri Siddha Medical College Santhigiri P.O Thiruvananthapuram Kerala - 695589		
<b>Parameters requested by customer for testing</b>	As, Pb, Cd & Hg Analysis	<b>Description of Sample</b>	Powder
<b>Date of the sample received</b>	By Courier 18/03/2022	<b>Date of Analysis</b>	29/03/2022
<b>Sample ID</b>	S01	<b>Sample Type</b>	Powder

**Method of Analysis**

<b>Test Method</b>	USP 231 USP 39 NF34
<b>Method of Analysis</b>	
<b>Instrument</b>	AAS
<b>Model</b>	AA200 series
<b>Standard</b>	Inorganic venture Standard Pb, Cd, Hg & As 1000 ppm
<b>Sample preparation for testing</b>	solution 1000 mg/ L sample in 1mol/L HNO <sub>3</sub>
<b>Lambda max</b>	Pb - 217.0 nm Cd - 228.8 nm Hg - 253.7 nm As - 193.7 nm

**Report**

<b>Result of Analysis</b>	<b>Parameters</b>	<b>Results</b>	<b>AYUSH Limits</b>
	As	1482.83	3.0 ppm
	Hg	6.397	1.0 ppm
	Cd	0.298	0.3 ppm
	Pb	42.79	10 ppm

Prepared by:

Reviewed by:

Approved by:

  
 Technical Manager  
 (Dr. S. Narasimhan)


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Ph: 044-4205446, 98400 64340, 9003133744

Email: asthagiri.herbal@gmail.com, cfo@asthagiriherbal.org.in



TC-10312

**CERTIFICATE OF ANALYSIS**

The results declared pertain only to the sample submitted for testing

**ULR NO: TC103122200000014F**

Test Report No	AHRF/JW6008/AAS/2022-23	Date of Issue	05/04/2022
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<b>Customer details</b>	Shivani .G Final Prof B.S.M.S Santhigiri Siddha Medical College Santhigiri P.O Thiruvananthapuram Kerala - 695589		
<b>Parameters requested by customer for testing</b>	As, Pb, Cd & Hg Analysis	<b>Description of Sample</b>	Powder
<b>Date of the sample received</b>	By Courier 18/03/2022	<b>Date of Analysis</b>	29/03/2022
<b>Sample ID</b>	S02	<b>Sample Type</b>	Powder

**Method of Analysis**

<b>Test Method</b>	USP 231 USP 39 NF34
<b>Method of Analysis</b>	
<b>Instrument</b>	AAS
<b>Model</b>	AA200 series
<b>Standard</b>	Inorganic venture Standard Pb, Cd, Hg & As 1000 ppm
<b>Sample preparation for testing</b>	solution 1000 mg/ L sample in 1mol/L HNO <sub>3</sub>
<b>Lambda max</b>	Pb - 217.0 nm Cd - 228.8 nm Hg - 253.7 nm As - 193.7 nm

**Report**

Result of Analysis	Parameters	Results	AYUSH Limits
	As	1374.09	3.0 ppm
	Hg	12.19	1.0 ppm
	Cd	0.19	0.3 ppm
	Pb	8.57	10 ppm

Prepared by:

Reviewed by:

Approved by:

  
Technical Manager  
Dr. S. Narasimhan

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TC-10312

**CERTIFICATE OF ANALYSIS**

The results declared pertain only to the sample submitted for testing

**ULR NO: TC103122200000017F**

Test Report No	AHRF/JW6045/AAS/2022-23	Date of Issue	11/04/2022
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<b>Customer details</b>	Shivani .G Final Prof B.S.M.S Santhigiri Siddha Medical College Santhigiri P.O Thiruvananthapuram Kerala - 695589		
<b>Parameters requested by customer for testing</b>	As, Pb, Cd & Hg Analysis	<b>Description of Sample</b>	Powder
<b>Date of the sample received</b>	By Courier 18/03/2022	<b>Date of Analysis</b>	29/03/2022
<b>Sample ID</b>	D01	<b>Sample Type</b>	Powder

**Method of Analysis**

<b>Test Method</b>	USP 231 USP 39 NF34
<b>Method of Analysis</b>	
<b>Instrument</b>	AAS
<b>Model</b>	AA200 series
<b>Standard</b>	Inorganic venture Standard Pb, Cd, Hg & As 1000 ppm
<b>Sample preparation for testing</b>	solution 1000 mg/ L sample in 1mol/L HNO <sub>3</sub>
<b>Lambda max</b>	Pb - 217.0 nm Cd - 228.8 nm Hg - 253.7 nm As - 193.7 nm

**Report**

Result of Analysis	Parameters	Results	AYUSH Limits
	As	63.37	3.0 ppm
	Hg	4.53	1.0 ppm
	Cd	BDL	0.3 ppm
	Pb	8.64	10 ppm

Prepared by:

Reviewed by:

Approved by:

  
Technical Manager  
(Dr. S. Narasimha)

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Email: asthagiri.herbal@gmail.com, [cfo@asthagiriherbal.org.in](mailto:cfo@asthagiriherbal.org.in)

TC-10312

**CERTIFICATE OF ANALYSIS**

The results declared pertain only to the sample submitted for testing

**ULR NO: TC103122200000018F**

<b>Test Report No</b>	AHRF/JW6046/AAS/2022-23	<b>Date of Issue</b>	11/04/2022
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<b>Customer details</b>	Shivani .G Final Prof B.S.M.S Santhigiri Siddha Medical College Santhigiri P.O Thiruvananthapuram Kerala - 695589		
<b>Parameters requested by customer for testing</b>	As, Pb, Cd & Hg Analysis	<b>Description of Sample</b>	Powder
<b>Date of the sample received</b>	By Courier 18/03/2022	<b>Date of Analysis</b>	29/03/2022
<b>Sample ID</b>	D02	<b>Sample Type</b>	Powder

**Method of Analysis**

<b>Test Method</b>	USP 231 USP 39 NF34
<b>Method of Analysis</b>	
<b>Instrument</b>	AAS
<b>Model</b>	AA200 series
<b>Standard</b>	Inorganic venture Standard Pb, Cd, Hg & As 1000 ppm
<b>Sample preparation for testing</b>	solution 1000 mg/ L sample in 1mol/L HNO <sub>3</sub>
<b>Lambda max</b>	Pb - 217.0 nm Cd - 228.8 nm Hg - 253.7 nm As - 193.7 nm

**Report**

<b>Result of Analysis</b>	<b>Parameters</b>	<b>Results</b>	<b>AYUSH Limits</b>
	As	88.26	3.0 ppm
	Hg	2.93	1.0 ppm
	Cd	BDL	0.3 ppm
	Pb	165.97	10 ppm

Prepared-by:

Reviewed by:

Approved by:

Technical Manager  
(Dr. S. Nagasimman)