

EXTRACTION LABORATORY

Faculty Details:



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About the Laboratory:

Area of Specialization: Hydrotropy, Nano Science & Waste Water Treatment

❖ Extraction of medicine from waste

- Ultrasound Assisted Hydrotropic Extraction of Resveratrol (Anti-ageing, Anti-cancer and Anti-oxidant) from Grape Skin
- Hydrotropic Extraction of Mangiferin (Anti-diabetic, Anti-tumour, Anti-viral) from mango leaves
 - ✓ Advantages
 - Cost Effective.
 - Recovery of solute

❖ Separation of Chemical products

- Separation of esters, acids, Ketones, alcohols and aldehydes (these compounds act as raw material and intermediate for a wide variety of products)
 - ✓ Advantages
 - High selectivity
 - Close boiling mixtures
 - Independent of pH

❖ Nano Synthesis

- Bio-synthesis of Gold and Silver nano-particles Using herbs
 - ✓ Advantages
 - Locally Available Plants
 - Bio-genic Efficacy
- Therapeutic effects of nano-particles
 - ✓ Anti-microbial
 - ✓ Anti-oxidant
 - ✓ Anti-cancer

❖ Waste water treatment

- Conversion of agricultural waste into economically viable adsorbent for waste water treatment
- To regenerate and reuse the activated carbon and electrodes

Accomplishment:

- ❖ Extraction of Anti-Cancer Agent- Resveratrol -From Grape Pomace
- ❖ Extraction of Mangiferin (Anti-diabetic) from Mango leaves

List of Major Equipments:

S.No.	Name of the Equipment
1.	UV Visible Spectrophotometer
2.	Muffle Furnace
3.	Thermostatic Bath
4.	UV Chamber
5.	Centrifuge
6.	Hot Air Oven
7.	Ultrasonicator
8.	Double Distillation Column
9.	Autoclave
10.	Water bath Shaker
11.	Magnetic Stirrer
12.	Vortex meter

List of Research Scholars:

S. No.	Name	Thesis Title	Year of passing/ Status
1	Dr.N.Meyyappan	Effect of Hydrotrope on solubility and mass transfer coefficient organic compounds	2006
2	Dr.S.Thenesh Kumar	Effect of hydrotropes on solubility and mass transfer coefficient of organic acids and 6 gingerol	2011
3	Dr.D.GnanaPrakash	Hydrotropic studies on solubility mass transfer coefficient and extraction of organic compounds	2011
4	Dr.M.Dinakaran	Separation of Chemical products through hydrotropy	2012
5	Dr.C.Jayakumar	A study of hydrotropy on solubility and mass transfer coefficient of organic solutes and drugs	2012
6	Dr.AntonyBertie Morais	Effect of hydrotropes on solubility and mass transfer coefficient of organic solutes	2013

7	Dr.Rajasekarreddy	Green synthesis characterization and biomedical applications of silver and gold nanoparticles	2013
8	Dr.D.Manikandan	Efficacy of anticancer bio-active compound through the natural tribe sources	2017
9	Dr.V.Padmakumari	The study on Nitrogen containing reducing agents for control of corrosion in nuclear reactors	2017
10	Dr.J.S.BerilMelbia	Studies on Polyacrylonitrile (PAN) Ultrafiltration membranes	2018
11	Dr.R.Saranya	Studies on polyetherethersulfone based mixed matrix membranes	2018
12	Dr.D.Vidhyalakshmi	Effective wastewater treatment and management techniques in process plants	2018
13	Dr.J.Pramila	Preparation and characterization of polymeric membranes for waste water treatment	2019
14	Dr.L.AnithaJegadees hvari	Synthesis characterization and pharmaceutical applications of silver and gold nanoparticles	2020
15	Dr.A.Swaminathan	Secure Routing Framework Using Anomaly Detection and Key Management in WSN	2020
16	Dr.P.Malathi	Script Based Phishing Attack Restriction in Client Side Script for Secure Computing	2020
17	Dr.E.Vasanth Kumar	In-Vitro Dissolution Studies and Clinical activity of bioactive compounds using Hydrotropy and Ultrasound Assisted Hydrotropic Extraction of Resveratrol from Vitisvinifera	2021
18	Dr.B.Lakshmidevi	Studies on algal assisted microbial fuel cells for carbon neutral electricity production	2021
19	Dr.K.Keruthiga	Photoelectrochemical based Methods for Hydrogen production	2022
20	Dr.R.Madhumitha	Electrocatalytic hydrogen evolution by metal organic complexes (Fe, Co and Ni)	2022