


Name of the PI: Dr. Vadivel Vellingiri
 Staff ID: C-1990
 Designation: Assistant Professor (Research)
 School: School of Chemical and Biotechnology (SCBT / CARISM)
 Name of the lab: Chemical Biology Lab / ASK-II-409
 Contact No.: 8973830858
 E-mail: vadivel@carism.sastra.edu
 Area of research: Bioprospecting / Phytomedicine

Bioprospecting medicinally active compounds

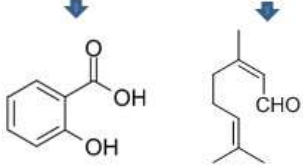
Plant products

Ethnomedicines


Agricultural byproducts



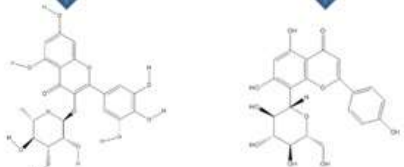
Mangifera indica Lemon grass




Salicylic acid Citral



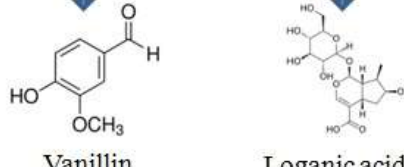
Madhuca longifolia *Prosopis cineraria*




Myricitrin Vitexin



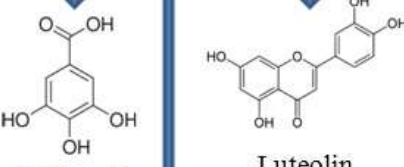
Flacourtia indica *Strychnos potatorum*



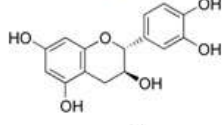
Vanillin Loganic acid



Cashewnut shell Coconut shell



Gallic acid Luteolin



Catechin

Food preservation Anti-bacterial property Anti-cancer property Antioxidant property Cyto-protective property

Funded research project

Title of the project: Recovery of polyphenols from nut byproducts for their application in food preservation and evaluation of their subsequent gastroprotective properties

Grant number: YSS/2014/000332

Duration: 3 Years (18-11-2015 to 17-Nov-2018) / 17-02-2019

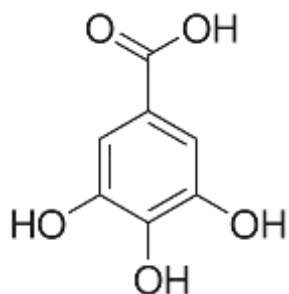
Funding agency: Science and Engineering Research Board (SERB)

Amount sanctioned: Rs. 24,30,000/-

PI: Dr. Vadivel Vellingiri



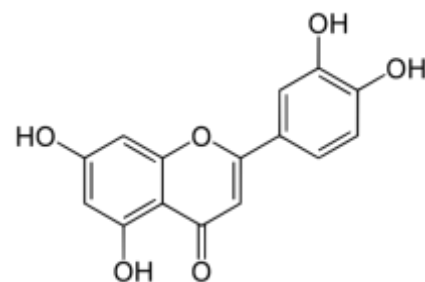
Cashewnut shell



Gallic acid



Coconut shell



Luteolin



Publications:

Microbial Pathogenesis, 2018, 124: 30-37 (IF: 3.738)

Journal of Food Sci. Technol. 2018, 55: 4304-4310 (IF: 2.701)

Agriculture and Natural Resources, 2018, 52, 451-459 (IF: 1.16)

Microbial Pathogenesis, 2019, 135: 103633 (IF: 3.738)

Current Microbiology, 2020, 77: 3339-3354 (IF: 2.188)

Funded research project

Title of the project: Bio-activity guided fraction and elucidation of anticancer compounds from *Flacourtia indica* tree bark

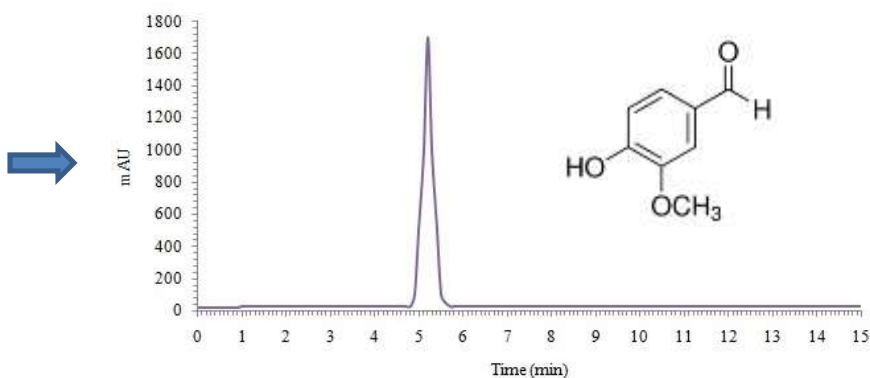
Grant number: R&D/TN-03/2016-17

Duration: 3 Years (01-05-2017 to 30-04-2021) / 09-02-2022

Funding agency: National Medicinal Plants Board (NMPB – AYUSH)

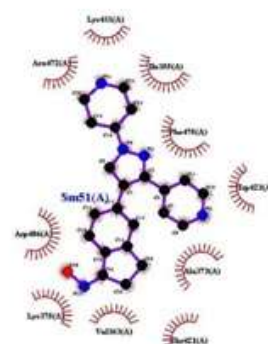
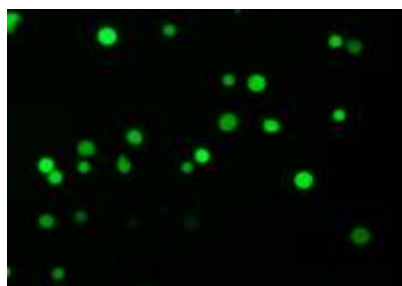
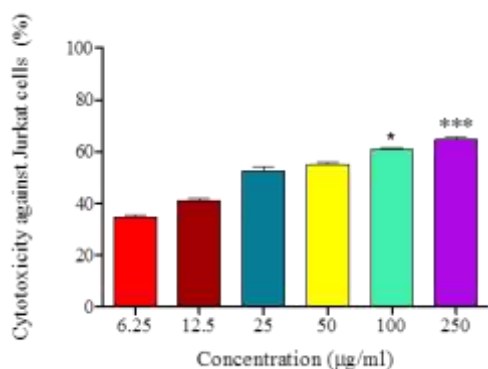
Amount sanctioned: Rs. 20,94,600/-

PI: Dr. Vadivel Vellingiri



Flacourtia indica

Vanillin



Anti-proliferative activity

ROS assay

Docking study

S. No.	Group	Ascites volume (mL)	Viability of DLA (%)	Mean survival time (days)	Life span (%)
1.	Normal control	--	--	28.00	--
2.	DLA bearing mice control	6.30 ± 0.61	89.61 ± 1.20	13.00	--
3.	Vanillin (50 mg/kg B.W.)	5.52 ± 0.53	54.57 ± 1.25***	20.00	53.85
4.	Vanillin (100 mg/kg B.W.)	5.02 ± 0.24**	37.57 ± 0.11***	18.50	42.31
5.	Doxorubicin (2.5 mg/kg B.W.)	5.19 ± 0.06**	66.75 ± 1.62***	14.00	7.69

Publications:

Materials Research Express, 2019, 6 (4): 045032 (IF: 1.449)

Natural Product Research, 2020a, 34: 3388-3393 (IF: 2.861)

Journal of Ethnopharmacology, 2020b, 251; 112527 (IF: 4.360)

South African Journal of Botany, 2021, 142: 82-87 (IF: 1.792)

Funded research project

Title of the project: *In vitro* and *in vivo* epigenetic investigations on anticancer and radio-priming effects of different parts of *Mangifera indica* (India) and *Mangifera zeylanica* (Sri Lanka) and impact of green silver nanocomposites

Grant number: DST/INT/SL/P-12/2016

Duration: 3 Years (01-06-2018 to 31-05-2021) / 30-03-2022

Funding agency: DST Indian-Sri Lankan collaborative project

Amount sanctioned: Rs. 22,34,000/-

Co-Investigator: Dr. Vadivel Vellingiri



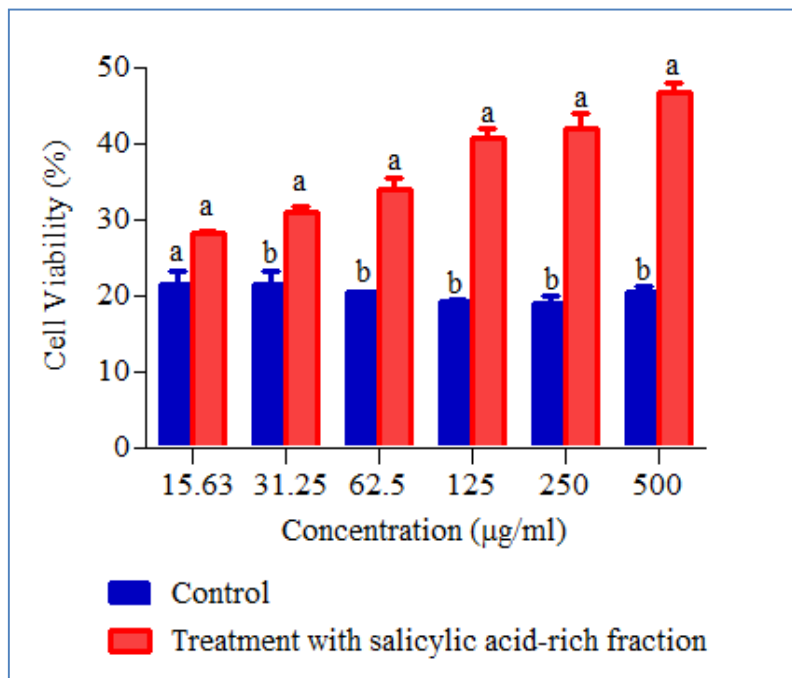
Mangifera indica



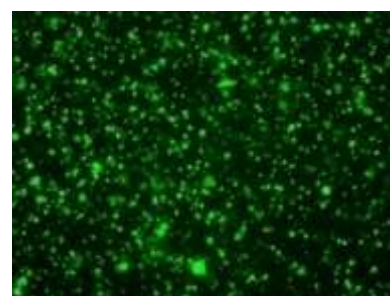
Bio-assay guided isolation



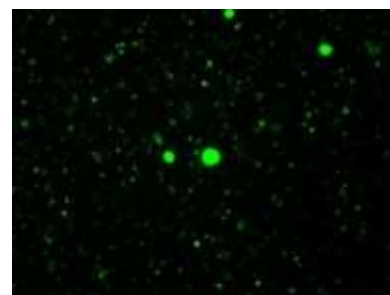
Salicylic acid



UV-protective activity



ROS assay (Untreated)



ROS assay (Treated)

Publication:

South African Journal of Botany, 2020, 130: 396-406 (IF: 2.315)

Ph.D. project guided

Title of the Ph.D. project: Formulation of nanoemulsions from selected spice essential oils and their major components to combat food-borne pathogens in minimally processed pineapples

Name of the scholar: Mr. Anand Prakash (PHBIOFI1603998)

Funding support: SERB and CSIR-JRF & SRF

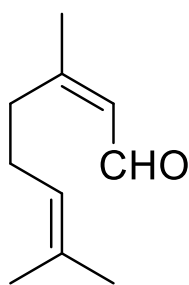
Guide: Dr. Vadivel Vellingiri

Date of joining: 22-07-2016 Thesis submitted: 26-06-2020

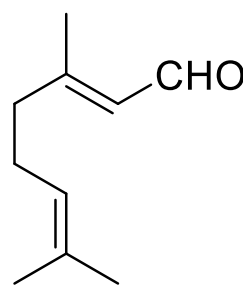
Date of Viva-voce: 20-10-2020 Degree awarded: 25-10-2020



Lemon grass



Neral (Citral b)



Geranial (Citral a)



Nanoemulsion



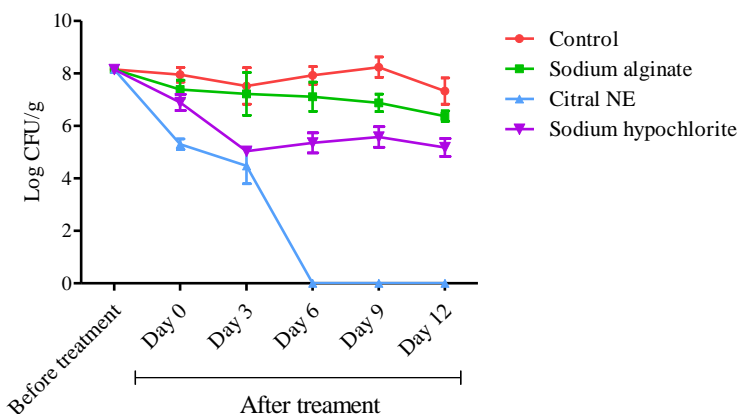
Control

Sodium alginate

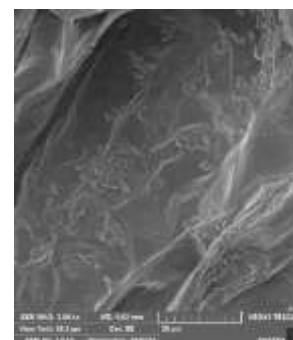
0.1% Citral NE

0.5% Citral NE

1% Citral NE



Control



NE Treated

Publications:

Food Research International, 111, 509-523 (IF 4.972)

Food Biosciences, 2019, 28, 57-65 (IF 3.067)

Journal of Cluster Science, 2019, 31: 1123-1135 (IF 2.125)

Journal of Food Science and Technology, 2020, 57 (4): 1495-1504 (IF 2.701)

LWT- Food Science and Technology, 118, 108851. (IF 4.952)

Ph.D. project guided

Title of the Ph.D. project: The anti-leukemic potential of active phyto-constituents isolated from ethno-medicines used by traditional healers of West Bengal

Name of the scholar: Mr. Monaj Kumar Sarkar (PHBIOFI16031018)

Funding support: SERB and SASTRA (TA)

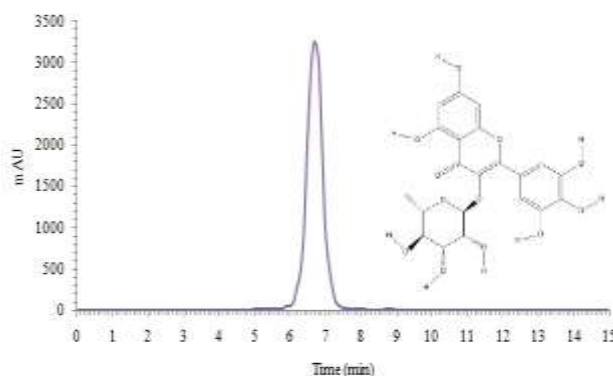
Guide: Dr. Vadivel Vellingiri

Date of joining: 05-08-2016 Thesis submitted: 26-03-2021

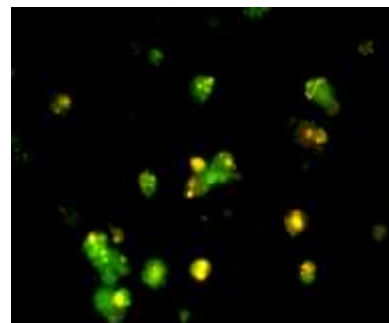
Date of Viva-voce: 21-09-2021 Degree awarded: 16-10-2021



Madhuca longifolia



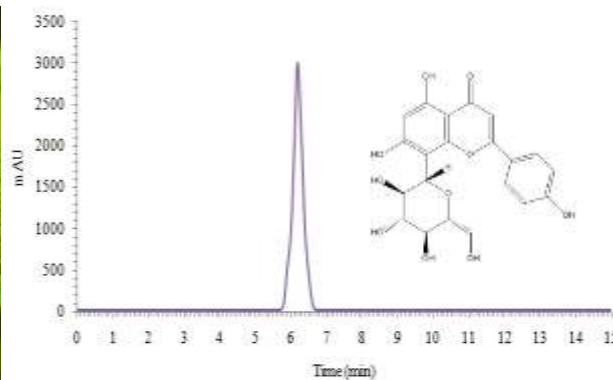
Myricitrin



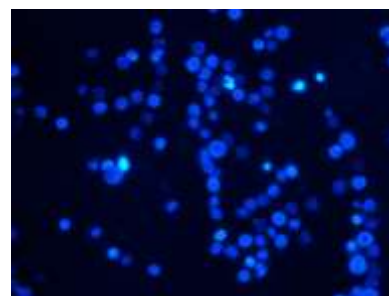
AO/EB assay



Prosopis cineraria



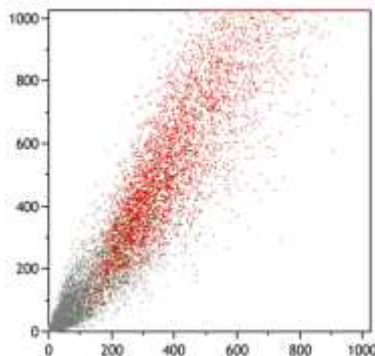
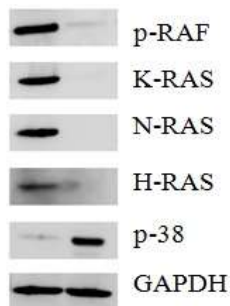
Vitexin



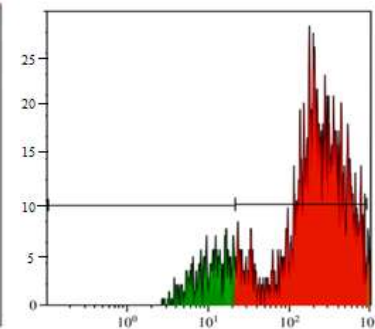
DAPI assay



Anti-leukemic activity



TUNEL assay



Publications:

- Natural Product Research, 2020, 34 (23).3388-3393. (IF: 2.861)
- Journal of Ethnopharmacology, 2020, 251, 112527. (IF: 4.36)
- Journal of Pharmacy & Pharmacology, 2021, 18 10.1093/jpp/rgab085 (IF: 3.765)
- Molecular Biology Reports, 2021, 10.1007/s11033-021-06500-z. (IF: 2.316)

Ph.D. project guided

Title of the Ph.D. project: Bioprospecting cashewnut shell (*Anacardium occidentale* L.) for anti-infective agent to eradicate methicillin-resistant *S. aureus*

Name of the scholar: Ms. Simran Sinsinwar (PHBIOFI17031131)

Funding support: NMPB-AYUSH and SASTRA (TA)

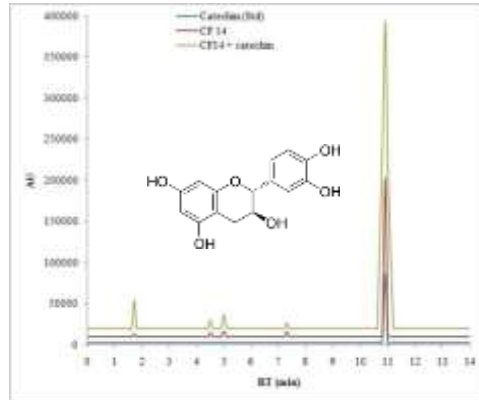
Guide: Dr. Vadivel Vellingiri

Date of joining: 17-07-2017 Thesis submitted: 20-10-2021

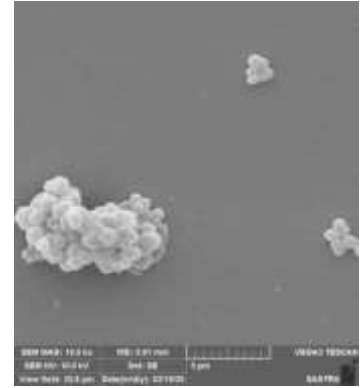
Date of Viva-voce: 18-02-2022 Degree awarded:



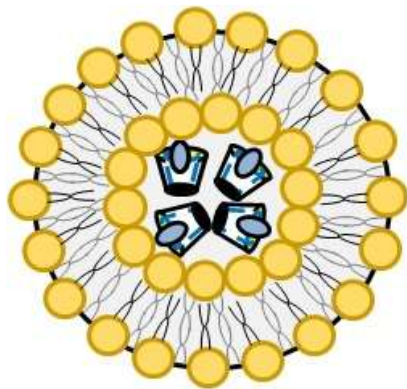
Cashewnut shell



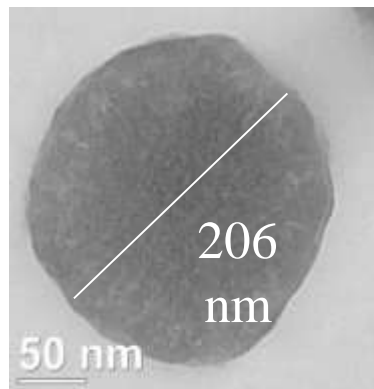
Catechin



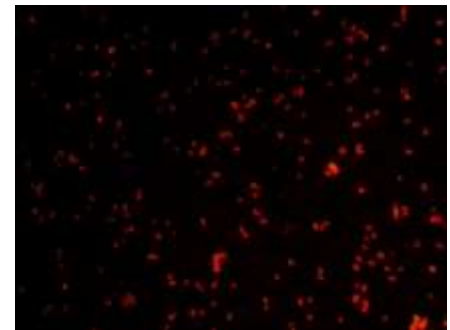
SEM image of *S. aureus*



Encapsulated catechin



TEM image



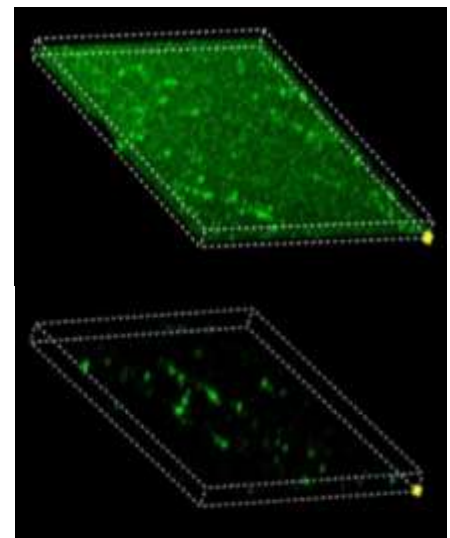
AO/EB assay



Anti-infective potential



Anti-virulent properties



CLSM images

Publications:

Applied Microbiology and Biotechnology, 2020, 104: 8279-8297 (IF 4.813)
International Journal of Pharmaceutics, 2021, 609: 121130 (IF 5.875)

M.Sc. project guided

Title of the M.Sc. project: Antioxidant and cytoprotective properties of loganic acid isolated from seeds of *Strychnos potatorum* L. against heavy metal induced toxicity in PBMC model

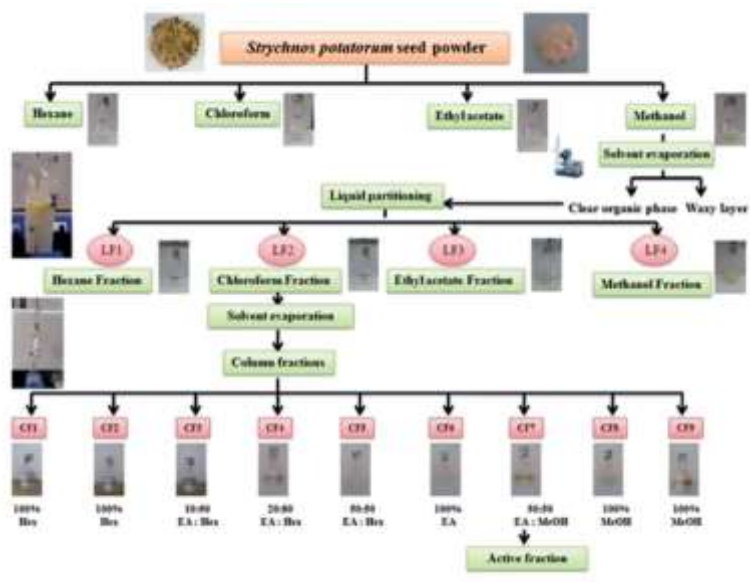
Name of the student: Ms. Abirami, A.

Guide: Dr. Vadivel Vellingiri

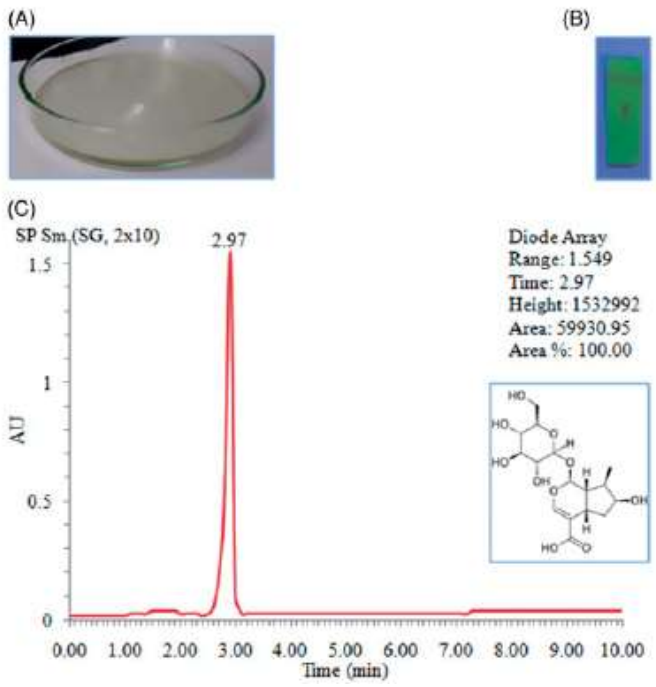
Duration: Dec-2018 to May-2019



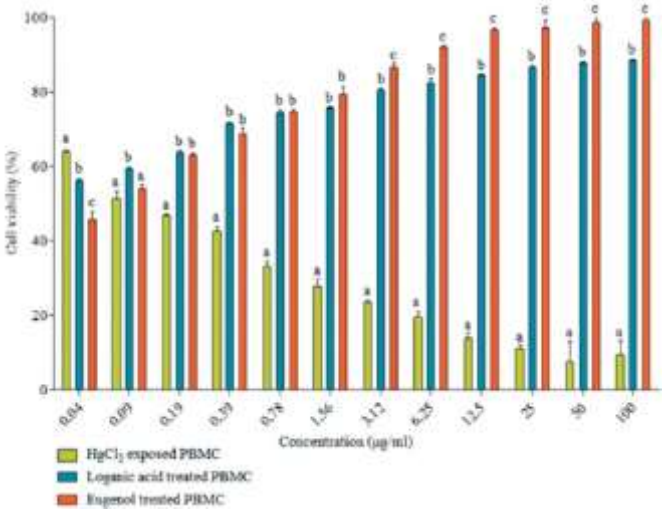
Strychnos potatorum



Bio-assay guided isolation



Loganic acid



Cyto-protective property

Publication: Drug and Chemical Toxicology, 2022, 45 (1): 239-249 (IF: 3.356)