

### 3.3.2 Number Of Research Papers Published In The Journals Notified On UGC Website During the Year

## INDEX SHEET

Sl.No	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Indexing	Page/ Journal No
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62	Molecular Simulation-based Combinatorial Modeling and Anti-oxidant Activities of Zingiberaceae Family Rhizomes	Prashanth Kumar HP	BT	Pharmacognosy Magazine	2017-Oct	09731296	Scopus	62
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70	Image Enhancement of Wireless Capsule Endoscopy Frames Using Image Fusion Technique	Vani V	EC	IETE Journal of Research	2018-Dec	03772063	Scopus	70
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72	Enzyme assisted bioactive extraction from flacourtia montana and investigation of its in-vitro	Shobha G	BT	international Journal of Pharmacy and Biological Sciences	2018-Jan	22307605	UGC Earlier	72
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74	Assessment of microsatellite instability for screening bladder cancer in high-risk population	Blessy Baby Mathew	BT	Journal of cancer research and therapeutics	2018-Jun	2352801X	Scopus	74

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# Journal Paper No -60

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Applicability of Dimensional Analysis for the Prediction of Pollution Performance of Insulators: An Experimental Study	KN Ravi	EEE	IET GENERATION TRANSMISSION & DISTRIBUTION	May-17	17518687	WOS

10/31/2019 Applicability of dimensional analysis for the prediction of pollution performance of insulators: an experimental study - IET Journals  
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Journals & Magazines > IET Generation, Transmission & Distribution > Volume: 11 Issue: 5

### Applicability of dimensional analysis for the prediction of pollution performance of insulators: an experimental study

Publisher: IET

4 Researchers: S. Sudhakar Shunmugam, N. Vasudev, K.N. Ravi, K.A. Venkatesh View All Authors

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**Abstract**

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**Abstract**  
In this research work, dimensional analysis is used to determine the maximum withstand pollution severity level (represented as volume conductivity) of an insulator as a function of its profile parameters and applied voltage. To validate the derived dimensional equation, the maximum withstand severity (MWS) tests have been carried out on 15 different profiles of cap and pin insulators for 220 and 400 systems by salt fog test method. The developed dimensional equation is used as a predictive model to determine MWS of insulator by assuming corrective constants. By analysing the mean square error and root mean square error, the proposed model is found to be in agreement with experimental results.

**Published in:** IET Generation, Transmission & Distribution ( Volume: 11, Issue: 5, 3 30 2017 )

**Page(s):** 1319 - 1324 **INSPEC Accession Number:** 16899835

**Date of Publication:** 11 May 2017 **DOI:** 10.1049/iet-gtd.2016.1504

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Print ISSN: 1751-8687  
Electronic ISSN: 1751-8695

**Publisher:** IET

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**Authors**

**References**

https://ieeexplore.ieee.org/document/7921786

Web of Science Master Journal x Applicability of Dimensional Analysis for the Prediction of Pollution Performance of Insulators: An Experimental Study x Applicability of dimensional analysis for the prediction of pollution performance of insulators: an experimental study - IET Journals

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**IET GENERATION TRANSMISSION & DISTRIBUTION**

Publisher: INST ENGINEERING TECHNOLOGY-IET, MICHAEL FARADAY HOUSE SIX HILLS WAY STEVENAGE, HERTFORD, ENGLAND, SG1 2AT

ISSN / eISSN: 1751-8687 / 1751-8695

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Indoor radon, thoron and their progeny concentration in and around Hassan district.	Rangaswamy DR	Physics	Environ Geochem	Oct-17	1573-2983	Scopus

The screenshot shows the Scopus Preview page for the paper. The title is 'Indoor radon, thoron and their progeny concentration in and around Hassan district'. The authors are Srinivas E<sup>1</sup>, Rangaswamy D R<sup>2</sup>, Umesh Reddy<sup>3</sup>, and Sannappa J<sup>4</sup>. The journal is 'Environmental Geochemistry and Health', Vol. 20, No 1 & 2, pp.29-33, 2017. The CiteScore 2018 is 3.06, SJR 2018 is 0.759, and SNIP 2018 is 1.184. The abstract states: 'The levels of indoor radon, thoron and their progeny concentrations inside the 40 dwellings in and around Hassan district have been determined by using solid state nuclear track detector based double chamber dosimeters (LR-115, type II plastic track detector). The indoor radon and thoron concentrations were found to vary from 17.75±2.9 to 83.82±6.9 Bq m<sup>-3</sup> with an average value of 43.28±3.5 Bq m<sup>-3</sup> and 10.41±1.3 to 60.86±3.9 Bq m<sup>-3</sup> with an average value of 25.62±2.4 Bq m<sup>-3</sup> respectively. The overall average radon concentration value in the present study is slightly higher than the worldwide average value reported for the dwellings of 40 Bq m<sup>-3</sup> recommended by UNSCEAR-2000 and lower than the action level of 100 Bq m<sup>-3</sup> recommended by World Health Organization and action level of 200 Bq m<sup>-3</sup> by International Commission on Radiological Protection.'

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Molecular Simulation-based Combinatorial Modeling and Anti-oxidant Activities of Zingiberaceae Family Rhizomes	Prashanth Kumar HP	BT	Pharmacognosy Magazine	Oct-17	09731296	Scopus

10/31/2019 Molecular Simulation-based Combinatorial Modeling and Antioxidant Activities of Zingiberaceae Family Rhizomes. - PubMed - NCBI

PubMed

Format: Abstract

Full text links

Pharmacogn. Mag., 2017 Oct;13(Suppl 3):S715-S722. doi: 10.4103/pm.pm\_82

**Molecular Simulation-based Combinatorial Modeling and Antioxidant Activities of Zingiberaceae Family Rhizomes.**

Usha T<sup>1,2</sup>, Pradhan S<sup>3</sup>, Goyal AK<sup>4</sup>, Dhivya S<sup>1</sup>, Kumar HPP<sup>5</sup>, Singh MK<sup>6</sup>, Joshi N<sup>6</sup>, Basistha BC<sup>3</sup>, Murthy KRS<sup>7</sup>, Salvaraj S<sup>8</sup>, Middha SK<sup>1,9</sup>.

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- 4 Centre for Bamboo Studies, Department of Biotechnology, Bodoland University, Kokrajhar, Assam, India.
- 5 Department of Biotechnology, Sapthagiri College of Engineering, Bengaluru, Karnataka, India.
- 6 Department of Biotechnology, Kumaun University, Nainital, Uttarakhand, India.
- 7 Department of Biochemistry, Bangalore University, Bengaluru, Karnataka, India.
- 8 Centre for Pharmacology and Toxicology, Hannover Medical School, 30625 Hannover, Germany.
- 9 Department of Biotechnology, Maharani Lakshmi Ammanni College for Women, Bengaluru, Karnataka, India.

**Abstract**

**OBJECTIVE:** The main aim of this scientific report was to investigate a series of phytochemicals *in silico* and the pharmacology of four plants found at higher altitude in the ginger family, Zingiberaceae (incl. Costaceae) from North-East India, particularly Sikkim. First, the goal was to determine the biological activities of the four herbs (used under Zingiberaceae family) using antioxidant assays to identify the best species. Second, previously reported compounds *in vitro* were subsequently screened for their anticancerous activities using *in silico* methods.

**MATERIALS AND METHODS:** Using the methanolic extracts of herbs, quantitative detection of phytochemicals such as total phenols and total flavonoids was detected, and the free radical scavenging activity was also studied using 2,2-diphenyl-1-picryl-hydrazyl (DPPH) assay. Docking process was studied, using Discovery Studio version 3.5, to identify suitable molecules at the protein-binding sites through annealing and genetic simulation algorithms. Grids centered on active sites were obtained with spacing of 54 × 55 × 56, and 0.503 grid spacing was calculated. The methods adopted and used in this study were comparisons of Global and Local Search Methods to determine the parameters such as maximum number of 250,000 energy evaluations as well as generations of 27,000, followed by mutation and crossover rates of 0.02 and 0.80. The number of docking runs was set to 10. Molecular dynamics study was done to check the stability of the complex.

**RESULTS:**

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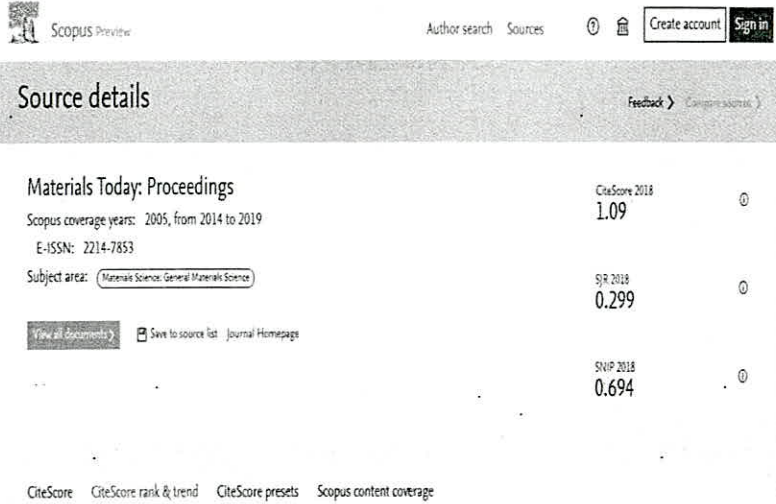
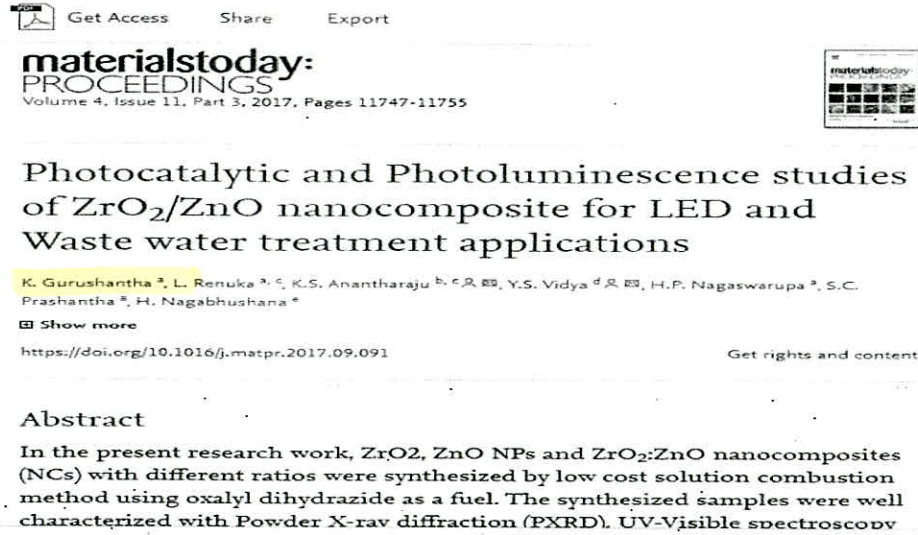
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# Journal Paper No -63

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Photocatalytic and Photoluminescence studies of ZrO <sub>2</sub> /ZnO nanocomposite for LED and Waste water treatment applications	K. Gurushantha	Chemistry	Materials Today: Proceedings	Sep-17	2214-7853	Scopus

  
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# Journal Paper No -64

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Electrochemical Studies of Nano Metal Oxide Reinforced Nickel Hydroxide Materials for Energy Storage Applications	K. Gurushantha	Chemistry	Materials Today: Proceedings	Sep-17	2214-7853	Scopus

  
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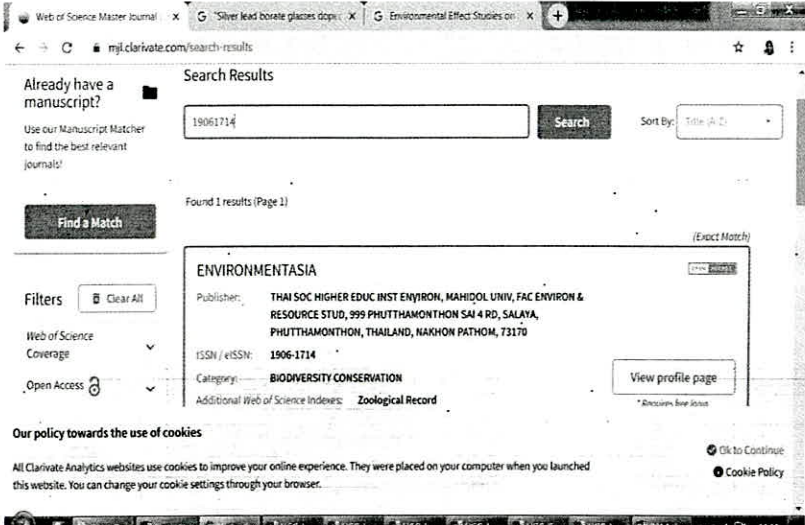
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Study on activity concentration of natural radionuclides and radiation hazards in rock samples and solid waste from BGML in and around Kolar Gold Fields, Karnataka, India	Rangaswamy DR	Physics	Environ Geochem	Sep-17	1573-2983	Scopus


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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Environmental Effect Studies on Aviation Contrails and Cirrus Clouds	Soumya C	BT	Environment Asia	Apr-18	19061714	WOS



The screenshot shows a web browser window with the URL [mjl.clarivate.com/search-results](http://mjl.clarivate.com/search-results). The search results page displays the journal title 'ENVIRONMENTASIA', publisher 'THAI SOC HIGHER EDUC INST ENVIRON, MAHIDOL UNIV, FAC ENVIRON & RESOURCE STUD, 999 PHUTTHAMONTHON SAI 4 RD, SALAYA, PHUTTHAMONTHON, THAILAND, NAKHON PATHOM, 73170', ISSN/eISSN '1906-1714', and category 'BIODIVERSITY CONSERVATION'. It also lists 'Additional Web of Science Indexes: Zoological Record'. A 'Find a Match' button is visible on the left, and a 'View profile page' button is on the right.


**EnvironmentAsia**  
The International Journal by the Thai Society of Higher Education Institutes on Environment

EnvironmentAsia 11(2) (2018) 164-171  
 DOI 10.14456/ea.2018.31  
 ISSN 1906-1714; ONLINE ISSN: 2586-8861

### Environmental Effect Studies on Aviation Contrails and Cirrus Clouds

Glen Cletus DSouza <sup>a</sup>, Vinutha Moses <sup>a\*</sup>, N. Chetan <sup>b</sup>, Sowmya C Mahadevaiah <sup>c</sup>,  
 Lourdu Antony Raj <sup>a</sup>

<sup>a</sup> Department of Chemical Engineering, R V College of Engineering Bengaluru  
<sup>b</sup> Department of Industrial Engineering Management, Institute of Technology Bengaluru  
<sup>c</sup> Department of Biotechnology, Sapthagiri College of Engineering, Bengaluru

\*Corresponding Author: vinuthamoses@rvce.edu.in  
 Received: November 29, 2017; Accepted: April 6, 2018

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#### Abstract

Vapor trails or contrails, which are emitted by the exhaust of aircraft engines, act as a radiating force affecting the earth's radiation balance. These contrails in some cases form cirrus coverage, which cannot be differentiated from the natural cirrus clouds, which are atmospheric clouds, distinguished by their thin and wispy strand-like appearance. Contrails contain traces of black carbon soot, sulphates, nitrogen oxides and to a lesser extent of metallic particles. Studies have found that vapor trails or contrails trap the outgoing radiation emitted by the earth's surface and atmosphere at a very high rate and they throw back the incoming solar radiation. The environmental effects and thermodynamic parameters of the aviation contrails on the Earth's atmosphere were studied. The vapor trails or contrails trap the outgoing radiation emitted by the Earth's surface and atmosphere at a very high rate and throw back the incoming solar radiation. The interaction between outgoing and incoming radiation often is referred to greenhouse effect which heats up the atmosphere.

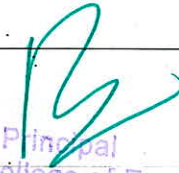
**Keywords:** Contrail; Exhaust; Engine; Aircraft; Cirrus cloud; Condensation; Global; Atmosphere

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#### 1. Introduction

Contrails are defined as the unnatural clouds of condensed water, which are the visible trails of vapor formed by the exhaust of aircraft turbines. It is also known as "condensation trails", the hot gases left behind by the aircraft cool the surrounding air that may

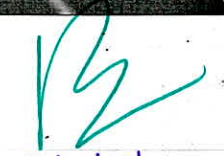
cause microscopic water droplets to condense. If the air is cold enough this trail will comprise of tiny crystals that is observable for only a few seconds or may linger for many hours, which can affect the climatic condition (Appleman, 1953). The most important byproducts, which are obtained by the combustion of hydrocarbon fuel, are carbon dioxide and water vapor. At

  
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## Journal Paper No -67

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
De-colorization of synthetic dye wastewater using packed bed electro-adsorption column	JSS Allwin Ebinesar	BT	Chemical Engineering and Processing - Process Intensification	Aug-18	0255-2701	WOS

  
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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Assessment of Genetic Variability in <i>Helminthosporium maydis</i> Infecting <i>Zea mays</i> in the Region of Karnataka	Soumya C	BT	Journal of Bionanoscience	Aug-18	15577910	Scopus

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Authors: Soumya, C.; Ramachandra, Y. L.  
Source: Journal of Bionanoscience, Volume 12, Number 4, August 2018, pp. 574-579(6)  
Publisher: American Scientific Publishers  
DOI: <https://doi.org/10.1166/jbns.2018.1547>

Abstract References Citations Supplementary Data Article Media Metrics Suggestions

Total eleven isolates of *Helminthosporium maydis* were collected from various regions of Karnataka and their molecular characters were studied using Randomly Amplified Polymorphic DNA techniques (RAPD). The RAPD profiles indicated an expressive level of polymorphism among different species, compared with a low level of polymorphism among isolates. A UPGMA phenogram grouped the isolates according to the species and their host plant. The numbers of amplified products generated were specific to the random primers and ranged from 3 to 11 bands. Some of the primers used in this assessment showed almost 99% polymorphism with fragment sizes ranging from 300 bp to 3.5 kb. Using Unweighted Pair Group Method using Arithmetic averages (UPGMA) analysis. Similarity matrix and distance matrix were also obtained. Based on this matrix, dendograms are produced. Dendograms reveals the similarity between eleven different samples. 11 isolates were grouped using dendogram and had a similarity coefficient of 70%. Isolates of S2 and S13 showed very low similarity coefficient of 25%.

Keywords: CLUSTER ANALYSIS; HELMINTHOSPORIUM MAYDIS; POLYMORPHISM; RAPD; UPGMA  
Document Type: Research Article  
Publication date: August 1, 2018  
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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Purification and biochemical characterization of extracellular glucoamylase from <i>Paenibacillus amylolyticus</i> strain	Veena More	BT	Journal of Basic Microbiology	Dec-18	0233111X	Scopus

The screenshot shows the Wiley Online Library search results for the article. The search criteria include the ISSN 0233111X. The results show one match: 'Purification and biochemical characterization of extracellular glucoamylase from *Paenibacillus amylolyticus* strain' by Lincoln L. More, published in the Journal of Basic Microbiology, 2019, 59(4), 375-384. The article is available in PDF format. The page also displays the journal's details, including its ISSN (0233-111X / 1521-4028) and its coverage in various databases like Science Citation Index Expanded and Biological Abstracts.

10/31/2019 Purification and biochemical characterization of extracellular glucoamylase from *Paenibacillus amylolyticus* strain - PubMed - NCBI

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J. Basic Microbiol. 2019 Apr;59(4):375-384. doi: 10.1002/jobm.201800540. Epub 2019 Jan 25.

**Purification and biochemical characterization of extracellular glucoamylase from *Paenibacillus amylolyticus* strain.**

Lincoln L.<sup>1</sup>, More VS<sup>2</sup>, More SS<sup>3</sup>.

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2 Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka, India.  
3 School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore, Karnataka, India.

**Abstract**

In the present study, glucoamylase produced from a soil bacterium *Paenibacillus amylolyticus* NEO03 was cultured under submerged fermentation conditions. The extracellular enzyme was purified by starch adsorption chromatography and further by gel filtration, with 2.73-fold and recovery of 40.02%. The protein exhibited molecular mass of ~66,000 Da as estimated by SDS-PAGE and depicted to be a monomer. The enzyme demonstrated optimum activity at pH range 6.0-7.0 and temperature range 30-40 °C. Glucoamylase was mostly activated by Mn<sup>2+</sup> metal ions and depicted no dependency on Ca<sup>2+</sup> ions. The enzyme preferentially hydrolyzed all the starch substrates. High substrate specificity was demonstrated towards soluble starch and kinetic values K<sub>m</sub> and V<sub>max</sub> were 2.84 mg/ml and 239.2 U/ml, respectively. The products of hydrolysis of soluble starch were detected by thin layer chromatography which showed only D-glucose, indicating a true glucoamylase. The secreted glucoamylase from *P. amylolyticus* strain possesses properties suitable for saccharification processes such as biofuel production.

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**KEYWORDS:** amylolyticus; characterization; glucoamylase; kinetics; purification; starch adsorption chromatography

PMID: 30681161 DOI: 10.1002/jobm.201800540  
[Index for MEDLINE]

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## Journal Paper No -70

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Image Enhancement of Wireless Capsule Endoscopy Frames Using Image Fusion Technique	Vani V	EC	IETE Journal of Research	Dec -18	03772063	Scopus

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Enzyme assisted bioactive extraction from flacourtia montana and investigation of its in-vitro	Kavya MV	BT	International Journal of Pharmacy and Biological Sciences	Jan-18	22307605	

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46296	Governance: The international journal of business in society	UNIV	Social Science	Emerald Publishing Limited	14720701	India
46301	History of Economics Review	UNIV	Social Science	Elsevier	10370196 18386318	Australia
46303	Selva Journal	UNIV	Science	Springer	23543902 23817875	Italy
46302	International Journal of Pharmacy and Biological Sciences	UNIV	Science	Jaypal Raddi Gangadi, Ed. & Pub.	22307605	India
46333	International Journal of Image and Graphics	UNIV	Science	World Scientific Publishing Co. Pte. Ltd	92194678	Singapore

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International Journal of Pharmacy and Biological Sciences  
ISSN: 2321-3272 (Print), ISSN: 2230-7605 (Online)  
JPBS | Volume 8 | Issue 1 | JAN-MAR | 2018 | 384-390  
Research Article | Biological Sciences | Open Access | MCI Approved |



ज्ञान-विज्ञान विमुक्तये  
[UGC Approved Journal]

### ENZYME ASSISTED BIOACTIVE EXTRACTION FROM *FLACOURTIA MONTANA* AND INVESTIGATION OF ITS *IN-VITRO* ANTIOXIDANT AND ANTI-DIABETIC ACTIVITY

Kavya MV<sup>1</sup>, Debika Chakrabarty<sup>2</sup>, Priyanka Prabhakar<sup>3</sup>, Kirana Shubhasri R<sup>4</sup>, Vishwaprakash Mahadimane<sup>5</sup>, Shobha G<sup>6\*</sup>

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#### ABSTRACT

*Flacourtia* species are known for medicinal properties since ancient times. Here in we report the efficacy of the enzyme assisted extraction of bioactive compounds from *Flacourtia montana* leaf using three different enzymes and in combination of same enzymes. The extraction was carried out by enzyme formulations which contained cellulase, pectinase and amylase in water bath at a temperature of 50°C for 3 hours. Further the extract were used to determine the phenolic content, flavonoid content, antioxidant and anti-diabetic properties. The combination of enzyme used for extraction showed maximum total phenolic and total flavonoid content. The extract also showed strongest antioxidant activities and antidiabetic activity compared to other methods. The TPC ranged from 54.22 ± 1.25 to 31.25 ± 1.02 mg GAE/g of DW, TFC ranged from 21.77 ± 0.54 to 8.72 ± 0.2 mg QE/g of DW and TAC was found to be 149.83 ± 4.4 to 88.16 ± 6.0 mg EAA/g of DW. The IC50 values for anti-diabetic properties varied from 300 ± 0.01 µg/ml to 910 ± 0.02 µg/ml.

#### KEY WORDS

Cellulase, Amylase, Antioxidant activity, Antidiabetic activity, Enzyme extraction, *Flacourtia montana*, Pectinase.

#### INTRODUCTION

Plant based medicines are used for combating diseases since ancient times due to the presence of a large number of bioactive compounds [1], hence there is a continuous search for medicinal plants that are of rich in these compounds. It has been reported that among more than 25,000 secondary metabolites that have been identified in plants [2], phenolic compounds found to distributed in all parts of higher plants shown to exhibits high degree of free radical scavenging property which may be the prime reason behind antioxidant activity, anti-tumor, antibacterial, anti-aging, anti-allergic, anti-inflammatory and antidiabetic properties [3,4]. The increased demand for the antioxidants and

antidiabetic activities from natural compounds have encouraged the research studies about enhanced extraction process. The conventional techniques of plant materials extraction are usually based on the choice of solvents and the use of heat to increase the solubility of the desired compounds. Usually, conventional techniques require longer extraction time, thus running a risk of thermal degradation of some of the bioactive compounds [5]. The solvents used in the extraction also increase the risk of environmental pollution. In last few years many new alternative methods have been developed for the extraction of phytochemicals from plants such as ultrasound-assisted extraction(UAE), enzyme assisted extraction(EAE),

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Enzyme assisted bioactive extraction from flacourtia montana and investigation of its in-vitro	Shobha G	BT	International Journal of Pharmacy and Biological Sciences	Jan-18	22307605	

UGC Approved (old) List of Journals

Sl. No.	Journal Name	UNIV	Discipline	Publisher	Year	Country
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### ENZYME ASSISTED BIOACTIVE EXTRACTION FROM *FLACOURTIA MONTANA* AND INVESTIGATION OF ITS *IN-VITRO* ANTIOXIDANT AND ANTI-DIABETIC ACTIVITY

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#### ABSTRACT

*Flacourtia* species are known for medicinal properties since ancient times. Here in we report the efficacy of the enzyme assisted extraction of bioactive compounds from *Flacourtia montana* leaf using three different enzymes and in combination of same enzymes. The extraction was carried out by enzyme formulations which contained cellulase, pectinase and amylase in water bath at a temperature of 50°C for 3 hours. Further the extract were used to determine the phenolic content, flavonoid content, antioxidant and anti-diabetic properties. The combination of enzyme used for extraction showed maximum total phenolic and total flavonoid content. The extract also showed strongest antioxidant activities and antidiabetic activity compared to other methods. The TPC ranged from 54.22 ± 1.25 to 31.25 ± 1.02 mg GAE/g of DW, TFC ranged from 21.77 ± 0.54 to 8.72 ± 0.2 mg QE/g of DW and TAC was found to be 149.83 ± 4.4 to 88.16 ± 6.0 mg EAA/g of DW. The IC50 values for anti-diabetic properties varied from 300 ± 0.01 µg/ml to 910 ± 0.02 µg/ml.

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Plant based medicines are used for combating diseases since ancient times due to the presence of a large number of bioactive compounds [1], hence there is a continuous search for medicinal plants that are of rich in these compounds. It has been reported that among more than 25,000 secondary metabolites that have been identified in plants [2], phenolic compounds found to distributed in all parts of higher plants shown to exhibits high degree of free radical scavenging property which may be the prime reason behind antioxidant activity, anti-tumor, antibacterial, anti-aging, anti-allergic, anti-inflammatory and antidiabetic properties [3,4]. The increased demand for the antioxidants and

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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Anti-snake venom potential of Clerodendrum serratum extracts on Bungarus caeruleus and Daboia russelli venom	Veena S.More	BT	Bangladesh Journal of Pharmacology	Jun-18	1991007X	Scopus

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### Anti-snake venom potential of *Clerodendrum serratum* extracts on *Bungarus caeruleus* and *Daboia russelii* venom

**Shwetha Vasudev<sup>1</sup>, Sunil Shivajirao More<sup>1</sup>, Gautham Santhekadur Annappa<sup>1</sup> and Veena Sunil More<sup>2</sup>**

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## Abstract

Anti-snake venom therapy is the only treatment for snake bite but leads to acute and chronic conditions which may be severe. The medicinal plants have gained importance over years to find an effective alternative to anti-snake venom. The present study focused on evaluating the potential of *Clerodendrum serratum* for the anti-snake venom activity. Phytochemicals were extracted from the leaves, stems, and roots of *C. serratum* and the extracts were tested. The extracts were found to neutralize the major enzyme toxins (phospholipase A<sub>2</sub>, protease and hyaluronidase) of *Bungarus caeruleus* and *Daboia russellii* venom at a concentration of 100 µg/mL. The fibrinolytic activity of both the venoms was neutralized. The study proves that the plant *C. serratum* possess certain compounds which inhibit the toxins present in the venom of *B. caeruleus* and *D. russellii*.

## Introduction

Around 3,000 species of snakes are identified so far, of which only 13-14% are found to be potentially dangerous to humans. Indian cobra (*Naja naja*), common krait (*Bungarus caeruleus*), Russell's viper (*Daboia russelli*) and saw-scaled viper (*Echis carinatus*) are considered responsible for snake bite deaths in India (Mukharjee, 2012).

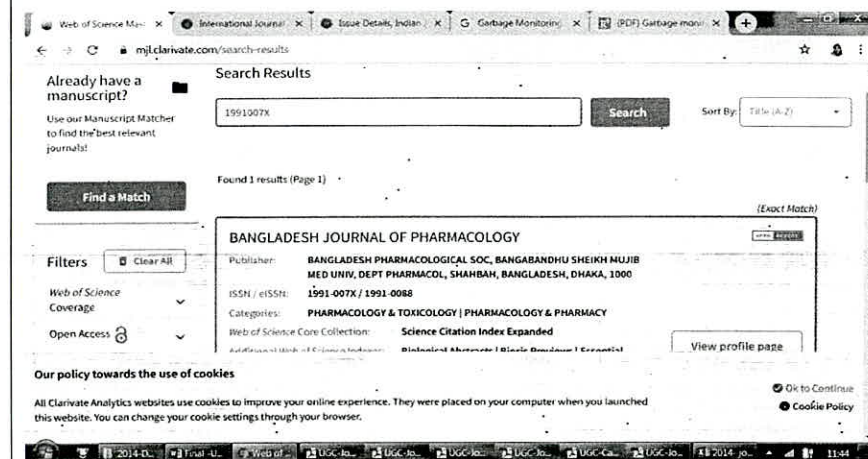
Presently, anti-snake venom obtained from the sera of horse is the only available treatment and has various limitations like cost, storage facility, anaphylactic reactions and serum sickness.

Numerous attempts have been made by researchers to develop snake venom antagonists from plants on the basis of the fact that these medicinal plants possess rich bioactive compound with potent pharmacological activity (Martz, 1992; Soares et al., 2005). The plants are *Eclipta* sp., *Casaria* sp., *Curcuma longa*, *Mimosa pudica* (Meenathisundaram et al., 2009), *Musa paradisica*,

*Mucuna pruriens*, *Bauhinia forficata*, *Hibiscus esculentus*, *Annona senegalensis*, *Mikania glomerata* (Floriano et al., 2009), *Piper* sp., *Schizolobium paralyba* (Mendes et al., 2008) etc.

*Clorodendrum serratum* L. Moon is a medically important plant, belonging to family Lamiaceae. Traditionally it is said to possess medicinal value in treating respiratory disorders, fever, rheumatism inflammation, snake bite etc. Scientific studies on *C. serratum* has revealed its therapeutic properties for asthmatic, mast cell stabilization and anti-allergic effects, also includes pharmacological activities such as hepatoprotective nature, antioxidant, anti-inflammatory and anti-cancer potential (Patel et al., 2014).

Snake venom neutralization studies was performed in genus *Clerodendrum* (*C. viscosum*) against *Naja naja* venom and was found to be effective which justifies the traditional use of *Clerodendrum viscosum* against snake bite (Richard et al., 2006). In the present study, attempt was made to evaluate the potential of *C. serratum*, for its



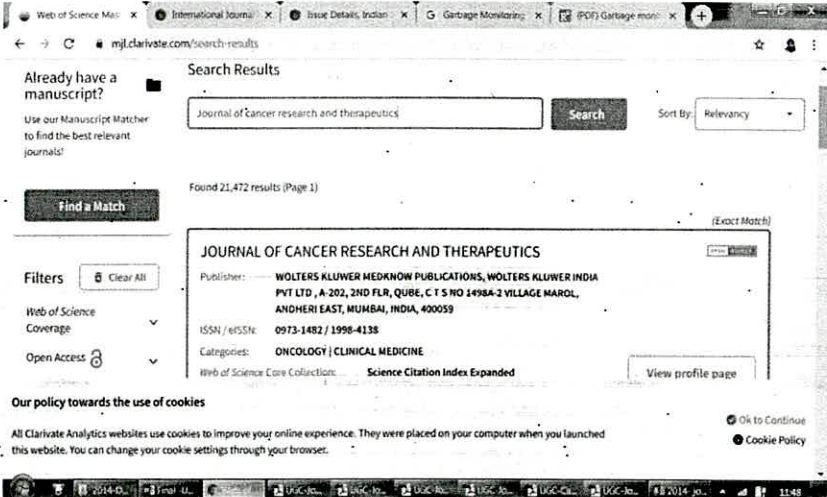
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Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Assessment of microsatellite instability for screening bladder cancer in high-risk population	Blessy Baby Mathew	BT	Journal of cancer research and therapeutics	Jul-18	2352801X	Scopus



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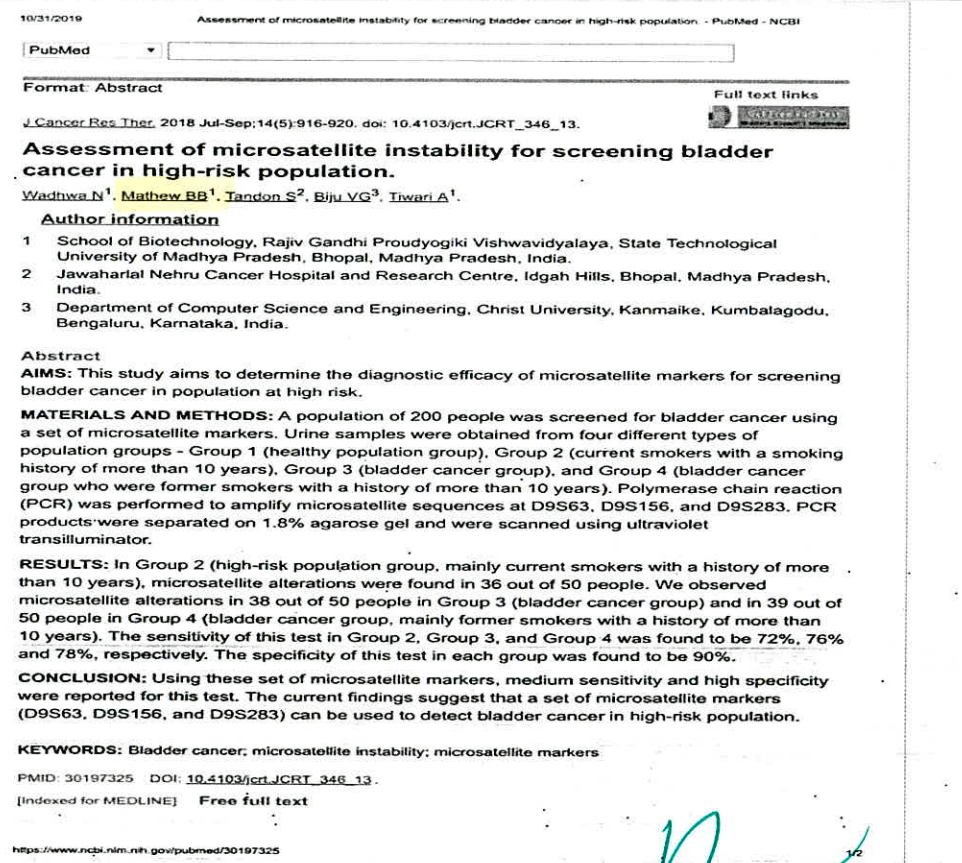
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J. Cancer Res. Ther. 2018 Jul-Sep;14(5):916-920. doi: 10.4103/jcrt.JCRT\_346\_13.

**Assessment of microsatellite instability for screening bladder cancer in high-risk population.**

Wadhwa N<sup>1</sup>, Mathew BB<sup>1</sup>, Tandon S<sup>2</sup>, Biju VG<sup>3</sup>, Tiwari A<sup>1</sup>.

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- 3 Department of Computer Science and Engineering, Christ University, Kanmaike, Kumbalagodu, Bengaluru, Karnataka, India.

**Abstract**

**AIMS:** This study aims to determine the diagnostic efficacy of microsatellite markers for screening bladder cancer in population at high risk.

**MATERIALS AND METHODS:** A population of 200 people was screened for bladder cancer using a set of microsatellite markers. Urine samples were obtained from four different types of population groups - Group 1 (healthy population group), Group 2 (current smokers with a smoking history of more than 10 years), Group 3 (bladder cancer group), and Group 4 (bladder cancer group who were former smokers with a history of more than 10 years). Polymerase chain reaction (PCR) was performed to amplify microsatellite sequences at D9S63, D9S156, and D9S283. PCR products were separated on 1.8% agarose gel and were scanned using ultraviolet transilluminator.

**RESULTS:** In Group 2 (high-risk population group, mainly current smokers with a history of more than 10 years), microsatellite alterations were found in 36 out of 50 people. We observed microsatellite alterations in 38 out of 50 people in Group 3 (bladder cancer group) and in 39 out of 50 people in Group 4 (bladder cancer group, mainly former smokers with a history of more than 10 years). The sensitivity of this test in Group 2, Group 3, and Group 4 was found to be 72%, 76% and 78%, respectively. The specificity of this test in each group was found to be 90%.

**CONCLUSION:** Using these set of microsatellite markers, medium sensitivity and high specificity were reported for this test. The current findings suggest that a set of microsatellite markers (D9S63, D9S156, and D9S283) can be used to detect bladder cancer in high-risk population.

**KEYWORDS:** Bladder cancer; microsatellite instability; microsatellite markers

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