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
60	Applicability of Dimensional Analysis for the Prediction of Pollution Performance of Insulators: An Experimental Study	KN Ravi	EEE	IET GENERATION TRANSMISSION & DISTRIBUTION	2017-May	17518687	WOS	60
61	Indoor radon, thoron and their progeny concentration in and around Hassan district.	Rangaswamy DR	Physics	Environ Geochem	2017-Oct	1573-2983	Scopus	61
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
63	Photocatalytic and Photoluminescence studies of ZnOnanomaterials by Banana peel powder	K. Gurushantha	Chemistry	MaterialsToday: Proceedings	2017-Sep	2214-7853	Scopus	63
64	Electrochemical Studies of Nano Metal Oxide Reinforced Nickel Hydroxide Materials for Energy Storage Applications	K. Gurushantha	Chemistry	Materials Today: Proceedings	2017-Sep	2214-7853	Scopus	64
65	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	2017-Sep	1573-2983	Scopus	65
66	Environmental Effect Studies on Aviation Contrails and Cirrus	Soumya C	BT	Environment Asia	2018-Apr	19061714	WOS	66

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INDEX SHEET

	Clouds							
67	De-colorization of synthetic dye wastewater using packed bed electro-adsorption column	JSS Allwin Ebinesar	BT	Chemical Engineering and Processing - Process Intensification	2018-Aug	0255-2701	WOS	67
68	Assessment of Genetic Variability in Helminthosporium maydis Infecting Zea mays in the Region of Karnataka	Soumya C	BT	Journal of Bionanoscience	2018-Aug	15577910	Scopus	68
69	Purification and biochemical characterization of extracellular glucoamylase from Paenibacillus amylolyticus strain	Veena More	BT	Journal of Basic Microbiology	2018-Dec	0233111X	Scopus	69
70	Image Enhancement of Wireless Capsule Endoscopy Frames Using Image Fusion Technique	Vani V	EC	IETE Journal of Research	2018-Dec	03772063	Scopus	70
71	Enzyme assisted bioactive extraction from flacourtia montana and investigation of its in-vitro	Kavya MV	BT	International Journal of Pharmacy and Biological Sciences	2018-Jan	22307605	UGC Earlier	71
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
73	Anti-snake venom potential of Clerodendrum serratum extracts on Bungarus caeruleus and Daboia russelli venom	Veena S.More	BT	Bangladesh Journal of Pharmacology	2018-Jun	1991007X	Scopus	73
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

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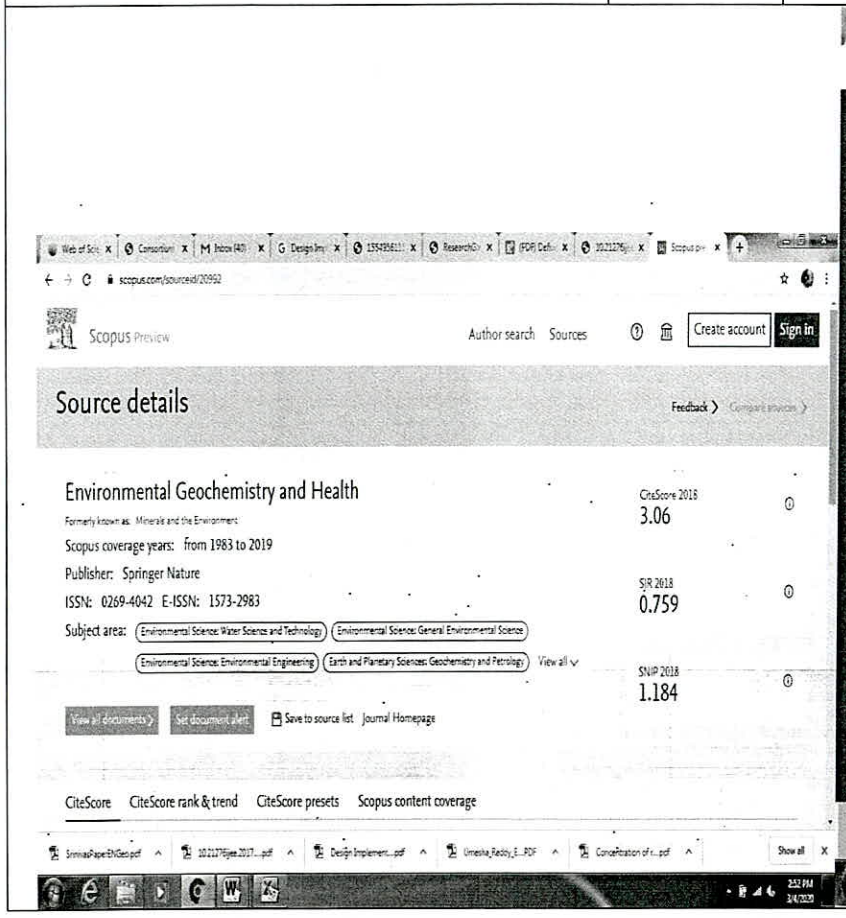
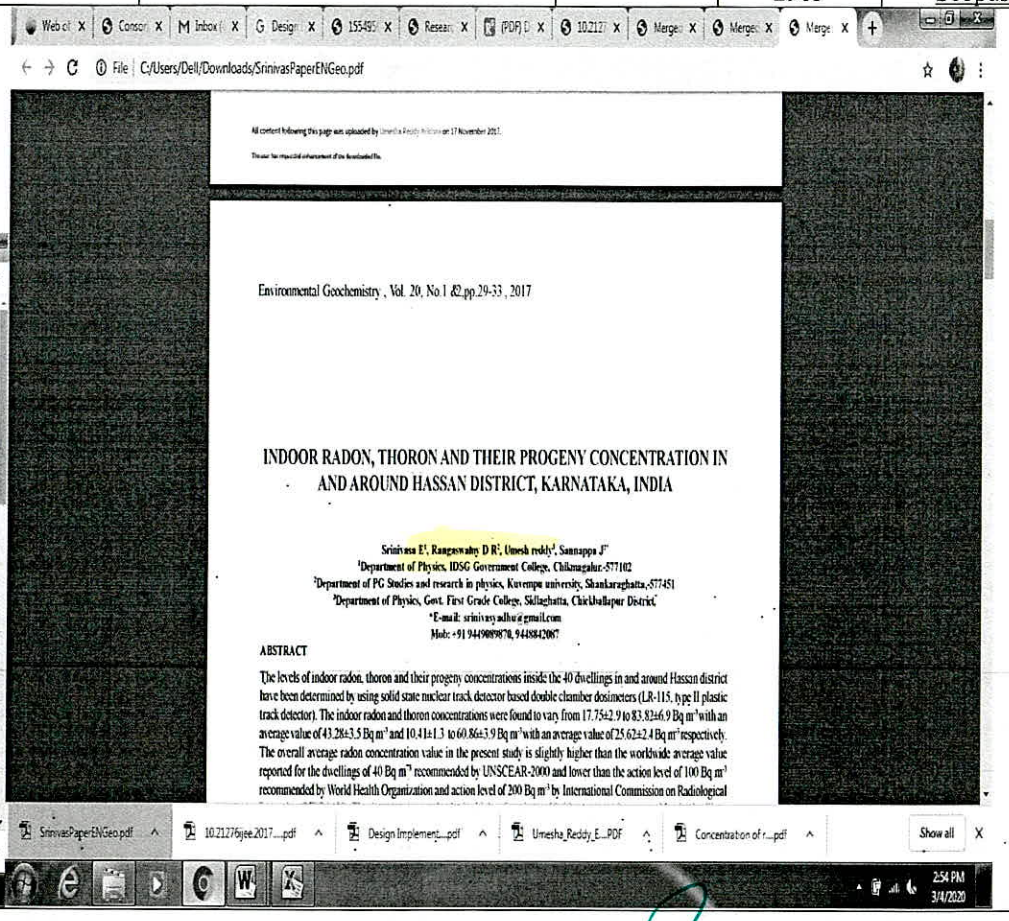
Journal Paper No -61

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





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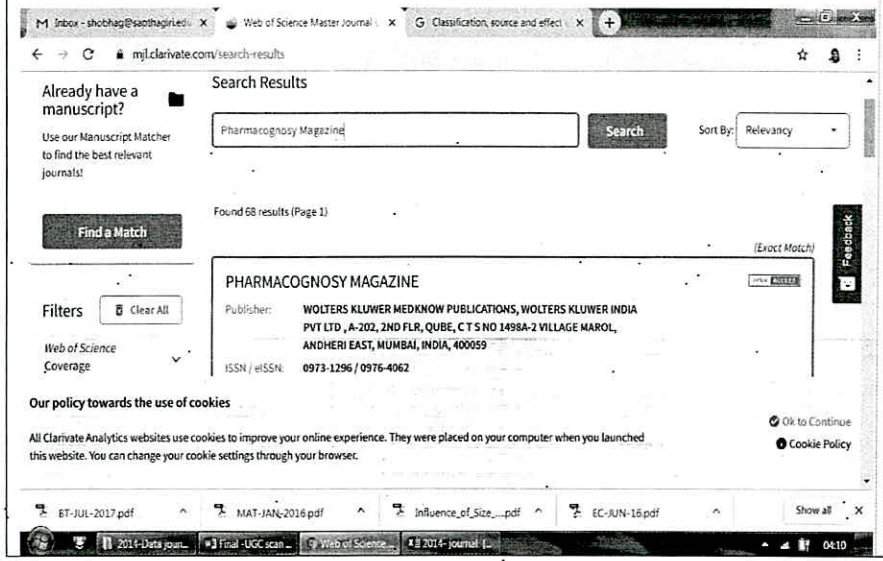
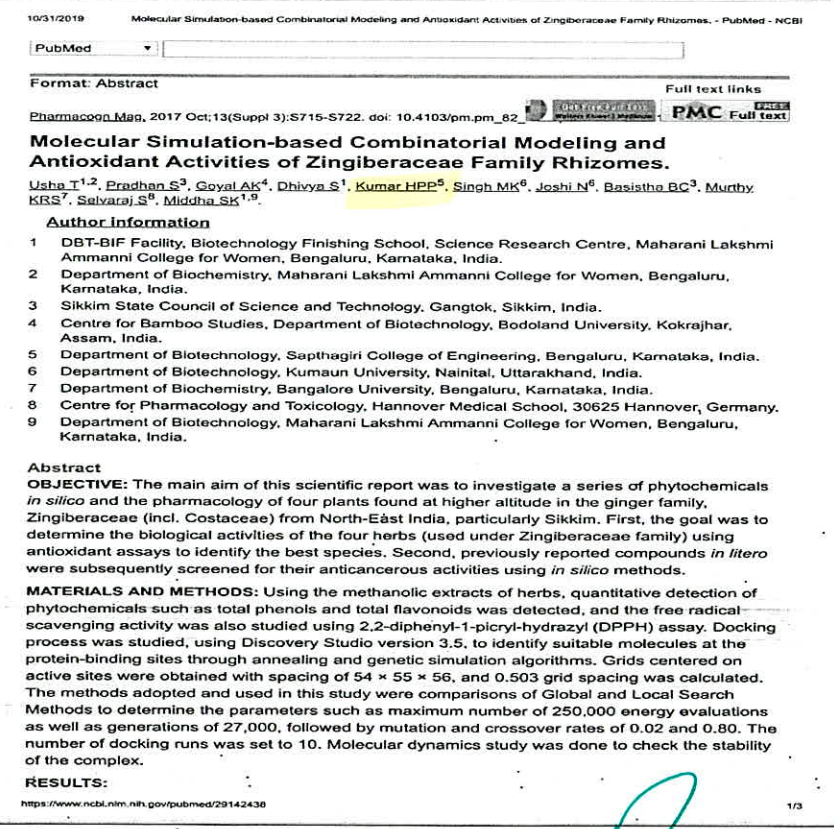
Journal Paper No -62

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_ PMC Full text

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

Usha T[1,2], Pradhan S[3], Goyal AK[4], Dhivya S[1], Kumar HPP[5], Singh MK[6], Joshi N[6], Basistha BC[3], Murthy KRS[7], Selvaraj S[8], Middha SK[1,9]

Author Information

1 DBT-BIF Facility, Biotechnology Finishing School, Science Research Centre, Maharani Lakshmi Ammanni College for Women, Bengaluru, Karnataka, India.
2 Department of Biochemistry, Maharani Lakshmi Ammanni College for Women, Bengaluru, Karnataka, India.
3 Sikkim State Council of Science and Technology, Gangtok, Sikkim, India.
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 litero* 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:

https://www.ncbi.nlm.nih.gov/pubmed/29142438 1/3

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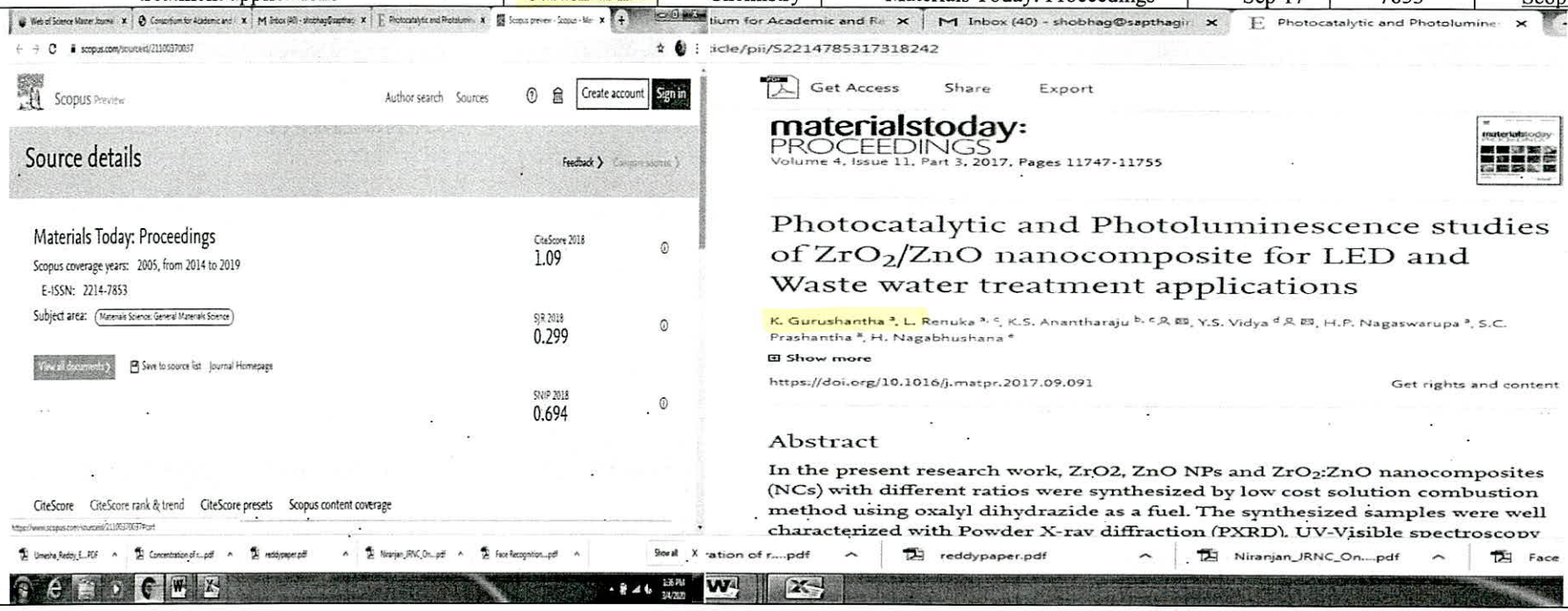
Journal Paper No -63

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 2/ZnOnanocomposite for LED and Waste water treatment applications	K. Gurushantha	Chemistry	Materials Today: Proceedings	Sep-17	2214-7853	Scopus



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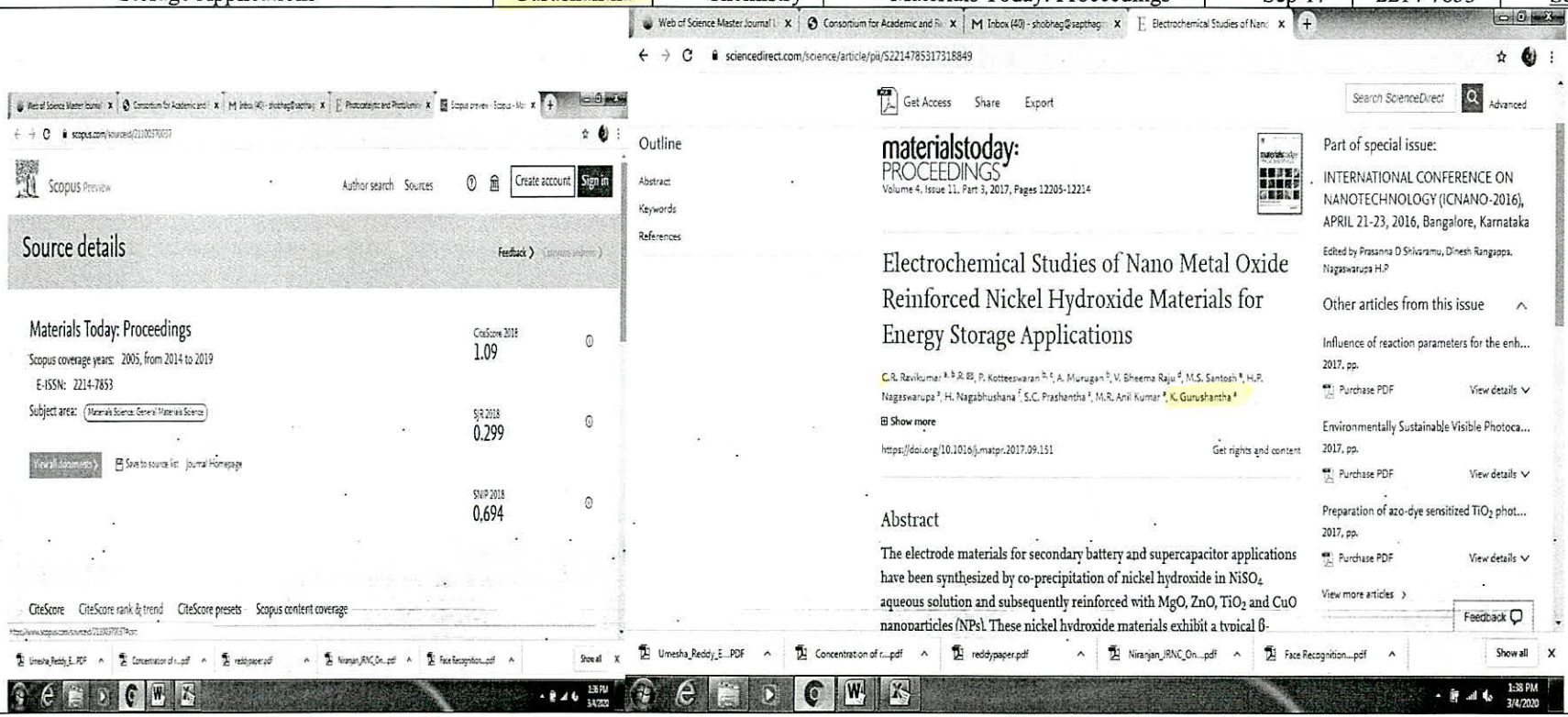
Journal Paper No -64

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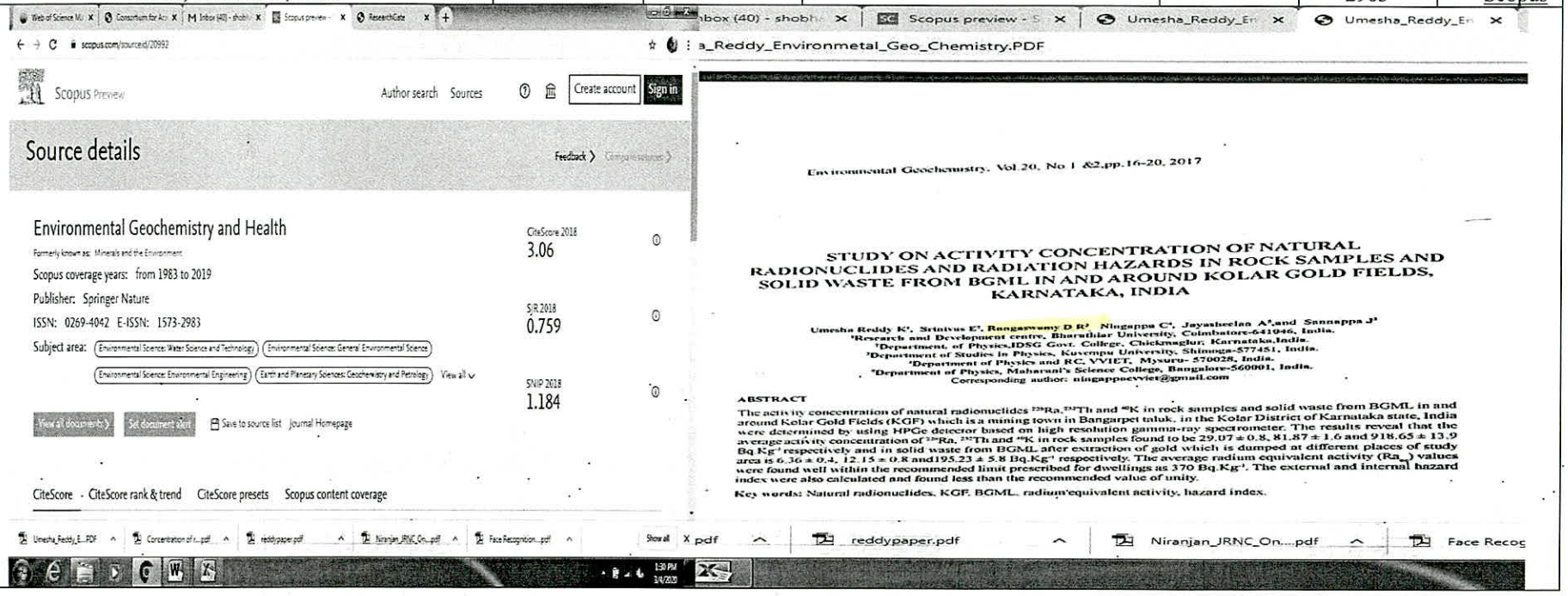
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISBN/ISSN number	Index
Study on activity concentration of natural radionuclides and radiation hazards in rock samples and solid waste from BGML in and around Kolar Gold Fields, Karnataka, India	Rangaswamy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



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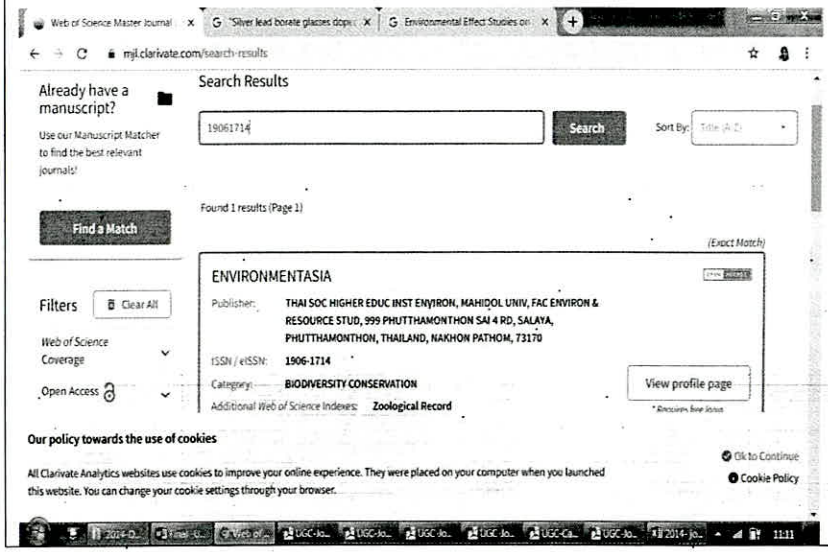
Journal Paper No -66

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



EnvironmentAsia
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 [a], Vinutha Moses [a*], N. Chetan [b], Sowmya C Mahadevaiah [c], Lourdu Antony Raj [a]

[a] Department of Chemical Engineering, R V College of Engineering Bengaluru
[b] Department of Industrial Engineering Management, Institute of Technology Bengaluru
[c] Department of Biotechnology, Sapthagiri College of Engineering, Bengaluru

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

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

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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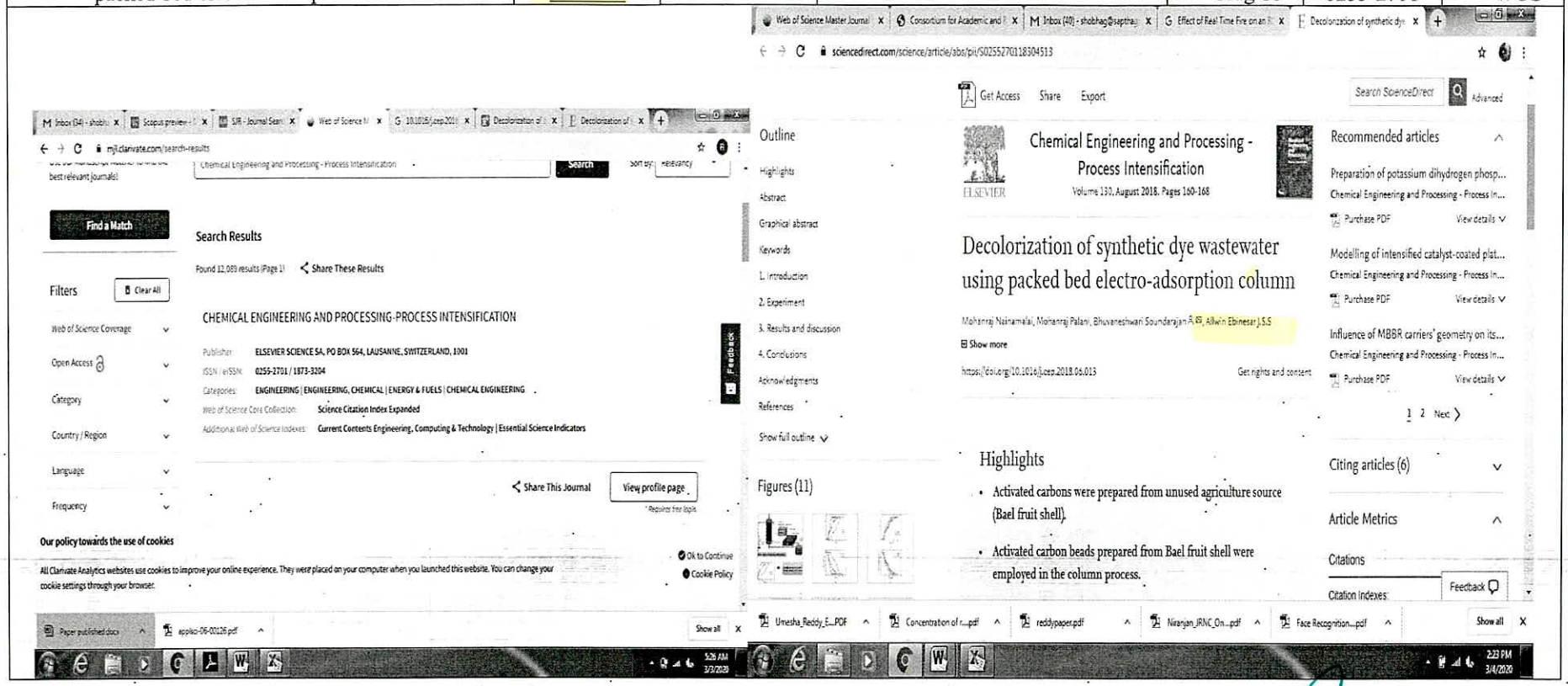
Journal Paper No -67

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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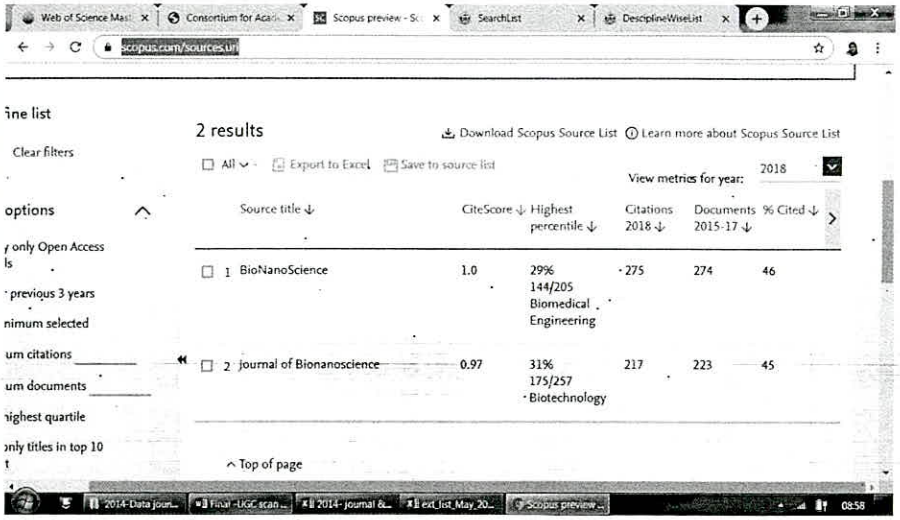
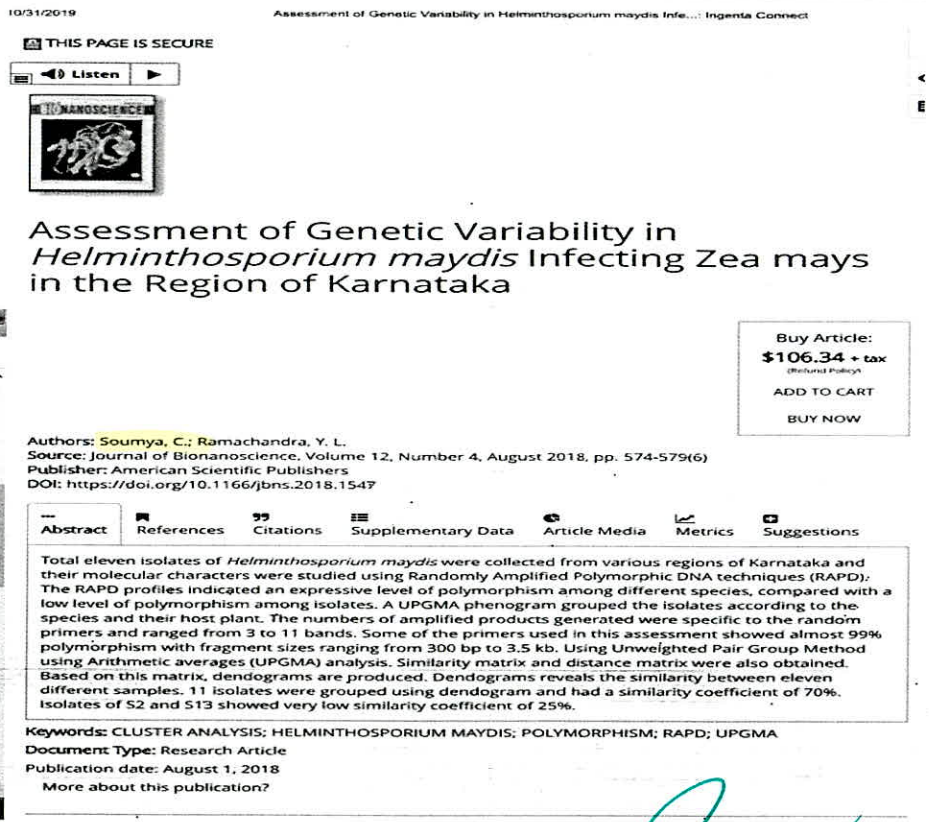
Journal Paper No -68

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 Helminthosporium maydis Infecting Zea mays in the Region of Karnataka	Soumya C	BT	Journal of Bionanoscience	Aug-18	15577910	Scopus





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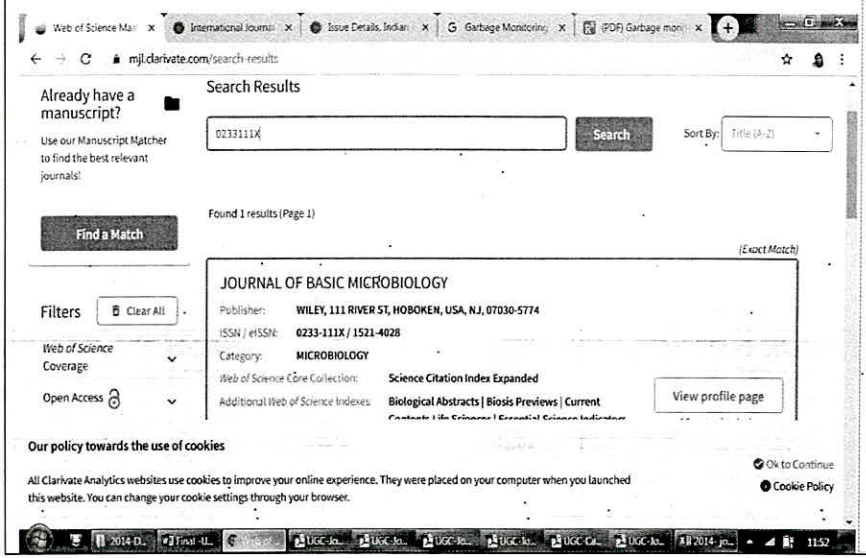
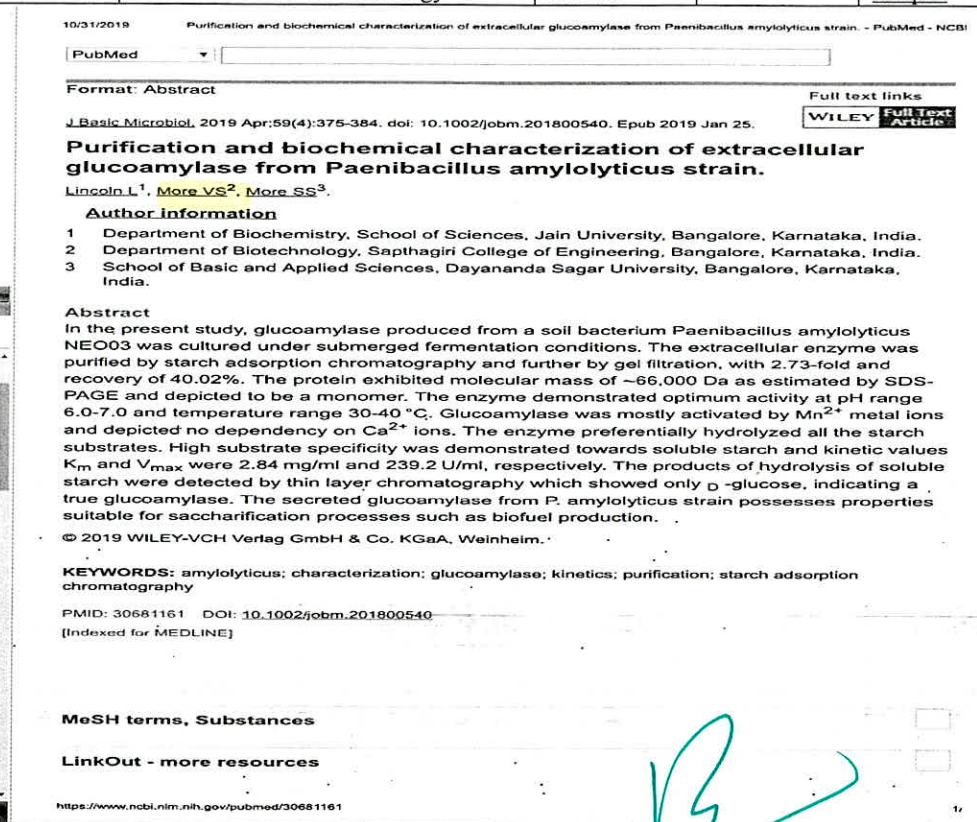
Journal Paper No -69

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 Paenibacillus amylolyticus strain	Veena More	BT	Journal of Basic Microbiology	Dec-18	0233111X	Scopus





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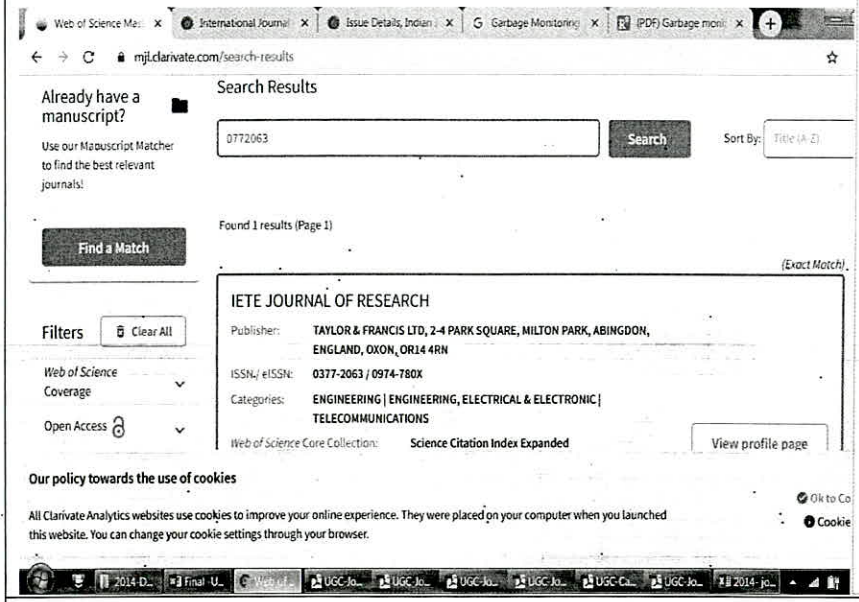
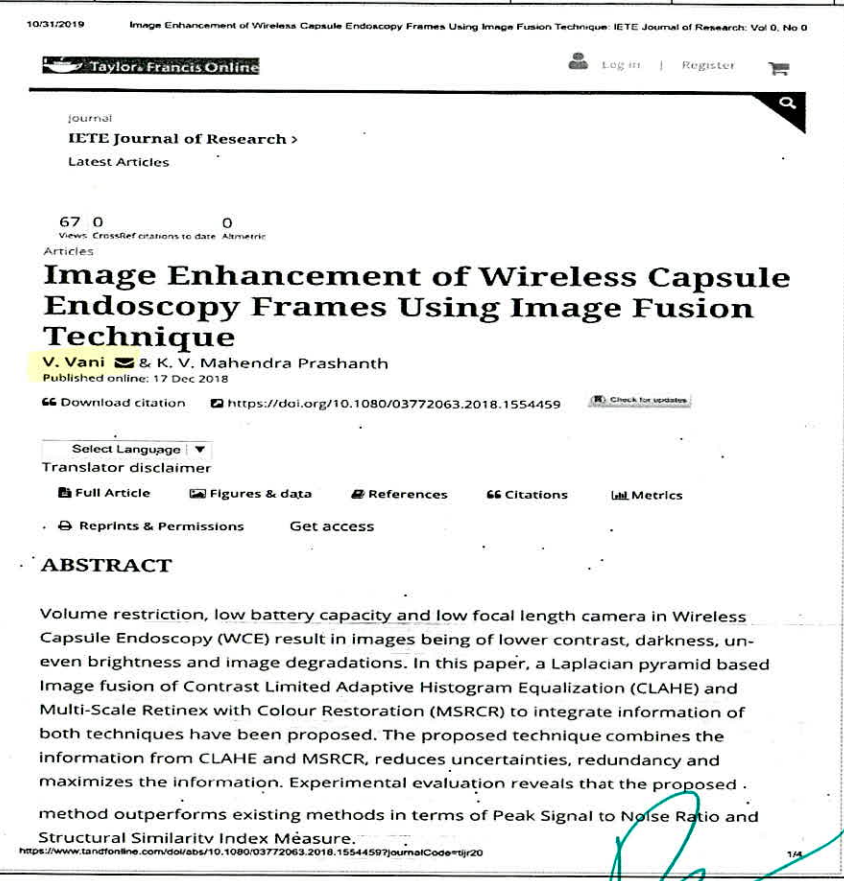
Journal Paper No -70

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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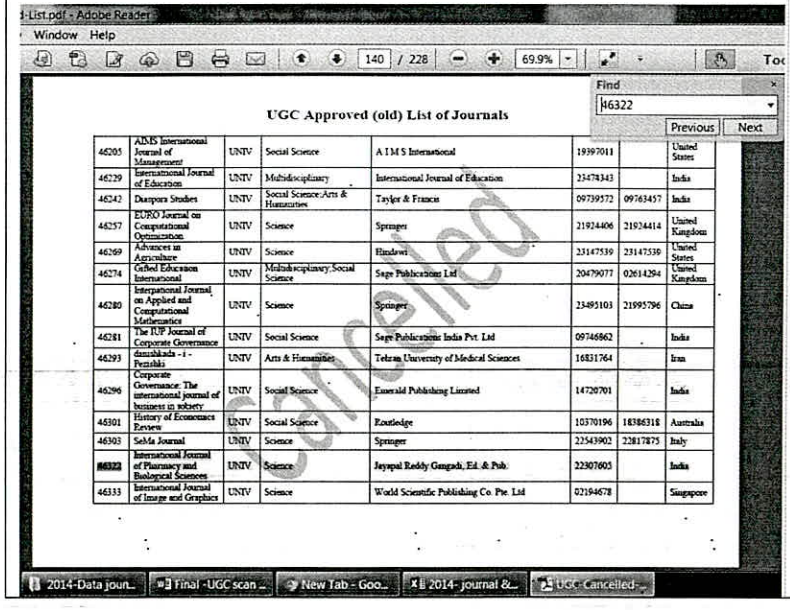
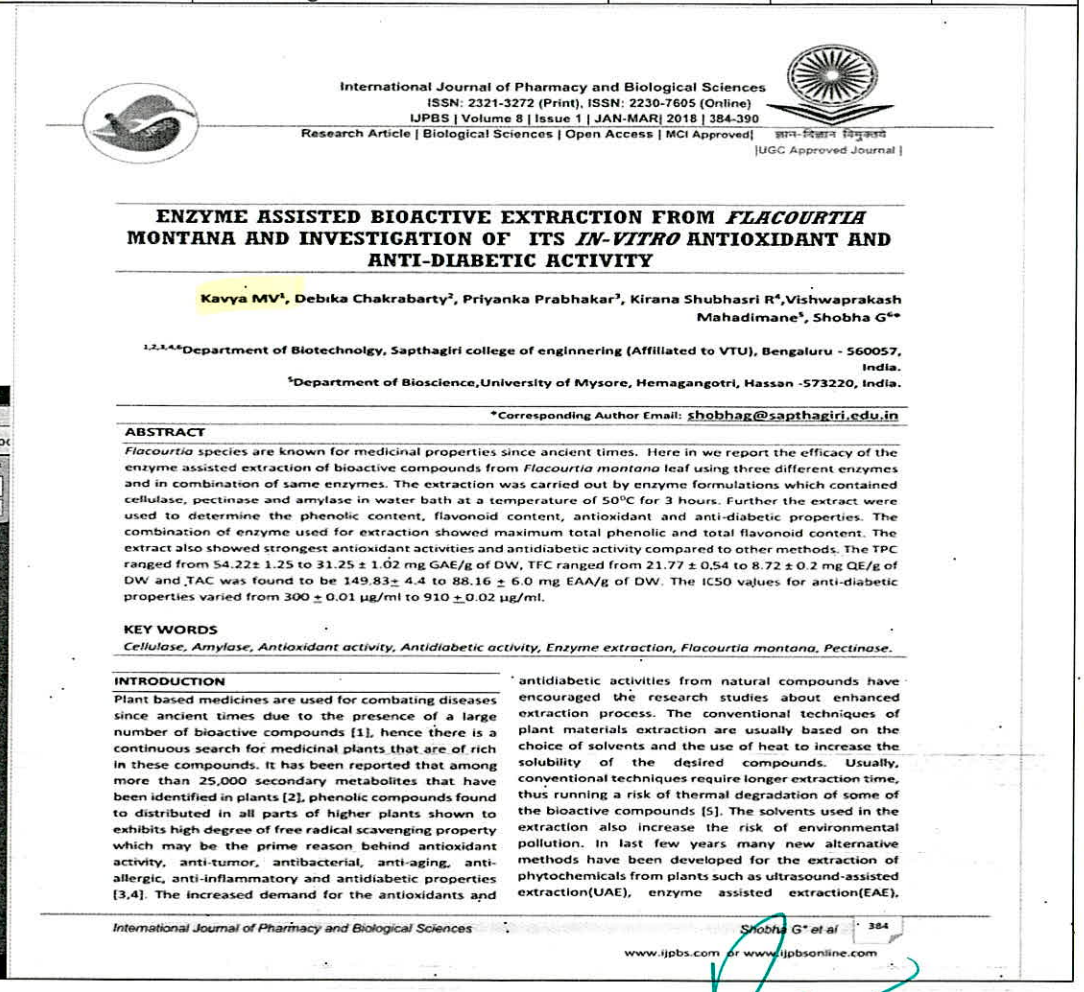
Journal Paper No -71

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	



46205	AIMS International Journal of Management	UNIV	Social Science	A I M S International	19397011		United States
46229	International Journal of Education	UNIV	Multidisciplinary	International Journal of Education	23478343		India
46242	Diaspora Studies	UNIV	Social Science:Arts & Humanities	Taylor & Francis	09739572	09763457	India
46257	EURO Journal on Computational Optimization	UNIV	Science	Springer	21924406	21924414	United Kingdom
46269	Advances in Agriculture	UNIV	Science	Hindawi	23147539	23147539	United States
46274	Gifted Education International	UNIV	Multidisciplinary;Social Science	Sage Publications Ltd	20479077	02614294	United Kingdom
46280	International Journal on Applied and Computational Mathematics	UNIV	Science	Springer	23495103	21995796	China
46281	The IUP Journal of Corporate Governance	UNIV	Social Science	Sage Publications India Pvt. Ltd	09746862		India
46293	danishkada - i - Penshki	UNIV	Arts & Humanities	Tehran University of Medical Sciences	16831764		Iran
46296	Corporate Governance: The international journal of business in society	UNIV	Social Science	Emerald Publishing Limited	14720701		India
46301	History of Economics Review	UNIV	Social Science	Routledge	10370196	18386318	Australia
46303	SeMa Journal	UNIV	Science	Springer	22543902	22817875	Italy
46322	International Journal of Pharmacy and Biological Sciences	UNIV	Science	Jayapal Reddy Gangadi, Ed. & Pub.	22307605		India
46333	International Journal of Image and Graphics	UNIV	Science	World Scientific Publishing Co. Pte. Ltd	02194678		Singapore



International Journal of Pharmacy and Biological Sciences
ISSN: 2321-3272 (Print), ISSN: 2230-7605 (Online)
IJPBS | 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[1], Debika Chakrabarty[2], Priyanka Prabhakar[3], Kirana Shubhasri R[4],Vishwaprakash Mahadimane[5], Shobha G[6]*

[1,2,3,4,6]Department of Biotechnolgy, Sapthagiri college of enginnering (Affiliated to VTU), Bengaluru - 560057, India.

[5]Department of Bioscience,University of Mysore, Hemagangotri, Hassan -573220, India.

*Corresponding Author Email: shobhag@sapthagiri.edu.in

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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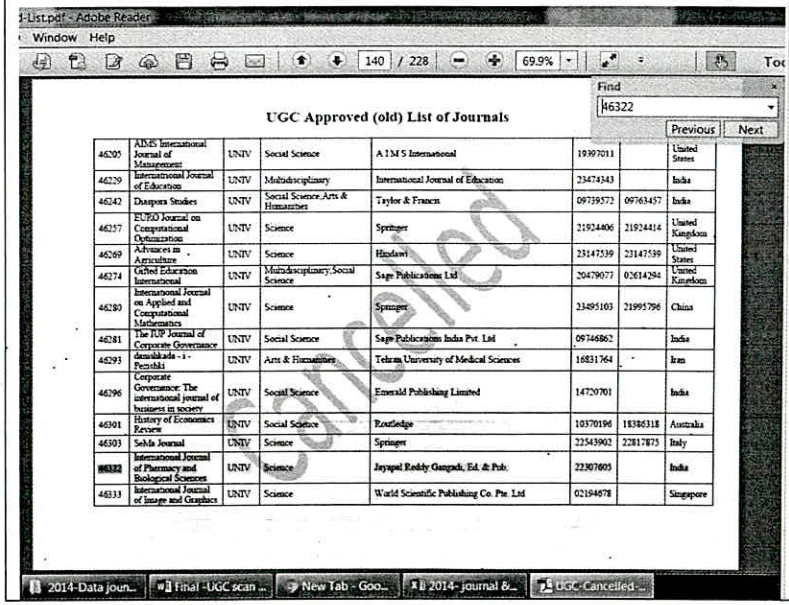
Journal Paper No -72

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	



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46229	International Journal of Education	UNIV	Multidisciplinary	International Journal of Education	23474343		India
46242	Diaspora Studies	UNIV	Social Science,Arts & Humanities	Taylor & Francis	09739572	09763457	India
46257	EUFO Journal on Computational Optimization	UNIV	Science	Springer	21924406	21924414	United Kingdom
46269	Advances in Agriculture	UNIV	Science	Hindawi	23147539	23147539	United States
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46281	The IUP Journal of Corporate Governance	UNIV	Social Science	Sage Publications India Pvt. Ltd	09746862		India
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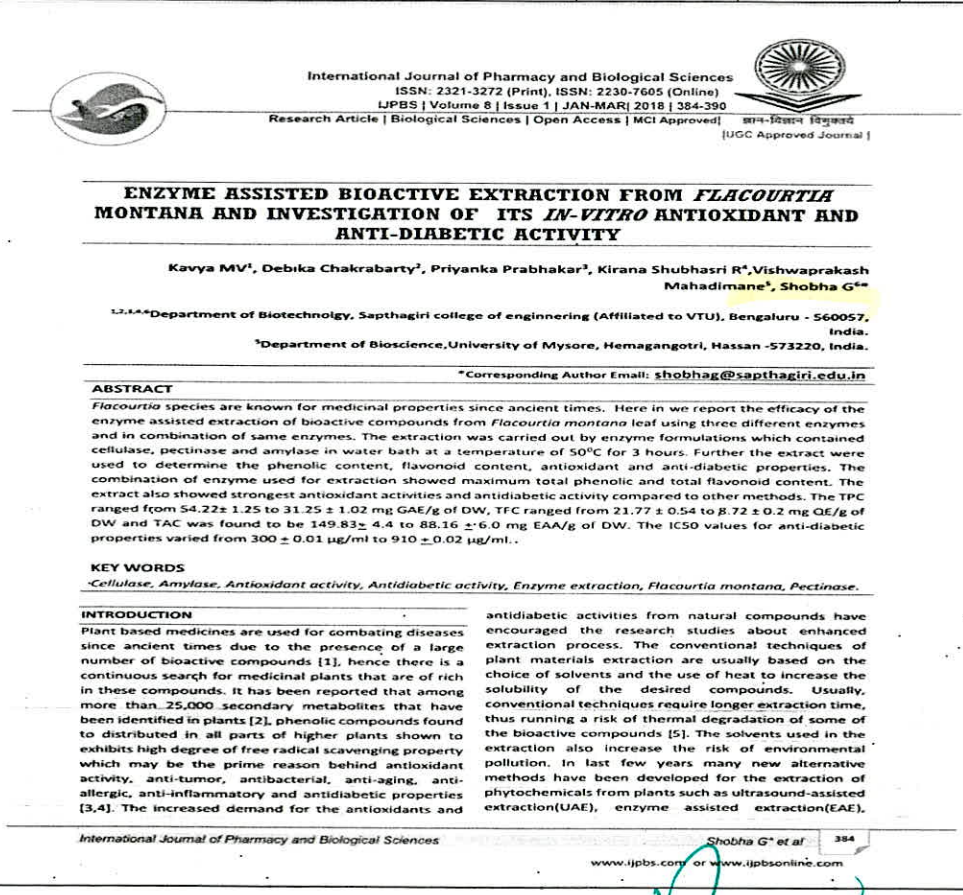
46322	International Journal of Pharmacy and Biological Sciences	UNIV	Science	Jayapal Reddy Gangadi, Ed. & Pub.	22307605		India
46333	International Journal of Image and Graphics	UNIV	Science	World Scientific Publishing Co. Pte. Ltd	02194678		Singapore



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

Kavya MV[1], Debika Chakrabarty[2], Priyanka Prabhakar[3], Kirana Shubhasri R[4],Vishwaprakash Mahadimane[5], Shobha G[6]*

[1,2,3,4,6]*Department of Biotechnolgy, Sapthagiri college of enginnering (Affiliated to VTU), Bengaluru - 560057, India.*

[5]*Department of Bioscience,University of Mysore, Hemagangotri, Hassan -573220, India.*

*Corresponding Author Email: shobhag@sapthagiri.edu.in

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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Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

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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[1], Sunil Shivajirao More[1], Gautham Santhekadur Annappa[1] and Veena Sunil More[2]

[1]*School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore, Karnataka, India;* [2]*Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka, India.*

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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 *C. serratum* with different solvents. The ethyl acetate and methanolic extracts were found to neutralize the major enzyme toxins (phospholipase A_2, protease and hyaluronidase) of *Bungarus caeruleus* and *Daboia russelii* venom at a concentration of 100 µg/mL. The fibrinogenolytic activity of both the venoms were neutralized. The study proves that the plant *C. serratum* possesses certain compounds which inhibit the toxins present in the venom of *B. caeruleus* and *D. russelii*.

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 russelii*) 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., Casearia sp., Curcuma longa, Mimosa pudica* (Meenatchisundaram et al., 2009), *Musa paradisiaca, Mucuna pruriens, Bauhinia forficata, Hibiscus esculentus, Annona senegallensis, Mikania glomerate* (Floriano et al., 2009), *Piper sp, Schizolobium parahyba* (Mendes et al., 2008) etc.

Clerodendrum 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 *Clerdendrum* (*C. viscosum*) against *Naja naja* venom and was found to be effective which justifies the traditional use of *Clerodendrtum 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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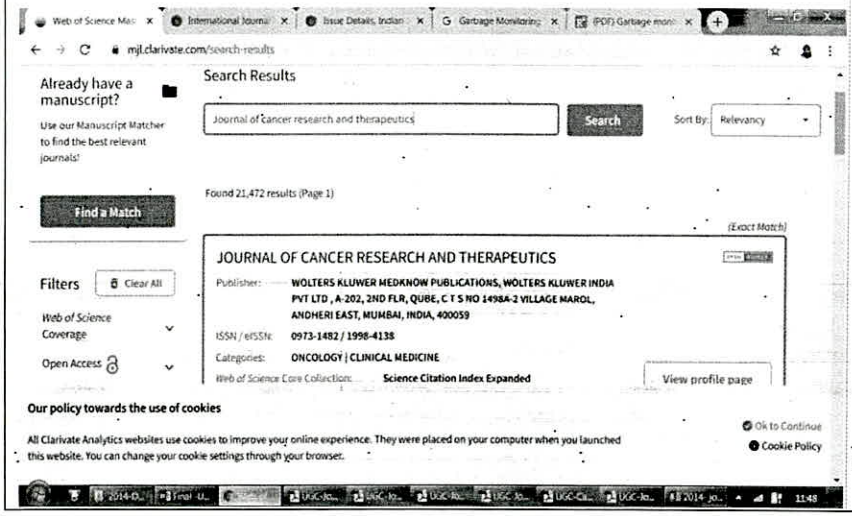
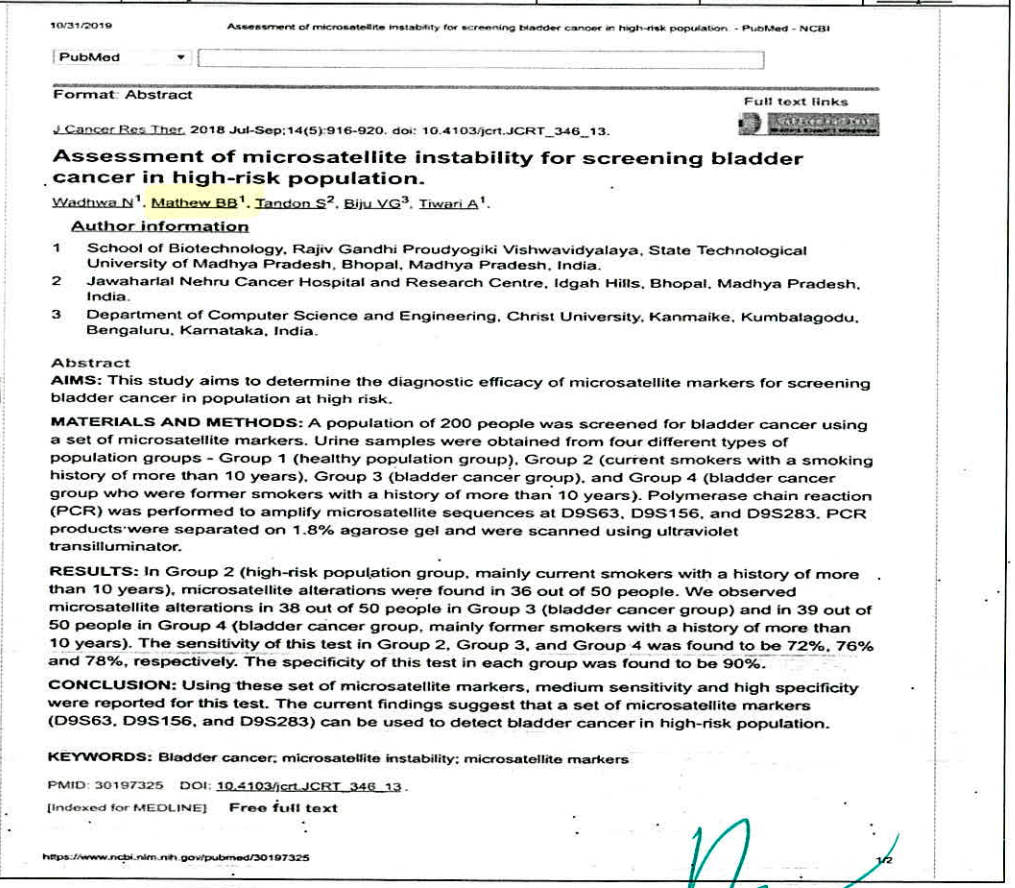
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

Journal Paper No -74

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

Wadhwa N[1], Mathew BB[1], Tandon S[2], Biju VG[3], Tiwari A[1].

Author information

1 School of Biotechnology, Rajiv Gandhi Proudyogiki Vishwavidyalaya, State Technological University of Madhya Pradesh, Bhopal, Madhya Pradesh, India.
2 Jawaharlal Nehru Cancer Hospital and Research Centre, Idgah Hills, Bhopal, Madhya Pradesh, India.
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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