



3.3- Research Publications and Awards

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher during last five years

DVV Query

- Cover page ,Content page and first page of the selected publication
- Web-link of books

DVV Clarifications


- Cover page ,Content page and first page of the selected publications are provided
- Web-link of books are provided

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3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Sr. No.	Name of the Teacher	Title of the paper	Name of the Conference	National/ International	Affiliation institute
 <p style="text-align: center;">Shri. Balasaheb Mane Shikshan Prasarak Mandal, Ambap's ASHOKRAO MANE COLLEGE OF PHARMACY Approved by PCI & AICTE New Delhi, DTE-Government of Maharashtra, Affiliated to Shivaji University, Kolhapur Peth Vadgaon Tal. Hatkanangale, Dist. Kolhapur (MH) PIN-416 112 Web: www.amcoph.org Phone: 0230-2471360-61 E mail: copbpharm@gmail.com</p>					
AY 2021-22					
1	Dr.S.B.Sutar	“Preparation and Evaluation of Nanoparticles from Natural PlantExtract”	Short invited talk at the First International Online Conference on Blends,Composites, BioComposites andNanocomposites	International	AMCP, Peth-Vadgaon
2	Mrs. P. S. Sankpal	Formulation and evaluation of herbal nanoparticle for bioavailability enhancement	Emerging Challenges and Advances in Neurosciences Amity university Uttar PradeshLucknow campus	National	AMCP, Peth-Vadgaon
3	Mrs. P. S. Sankpal	Synthesis of herbal nanoparticles and their applicationsin the treatment of colorectal cancer	3 rd InternationalMultidisciplinary ConferenceonEmergingTrends in Humanities,Commerce,Management,ScienceandTechnology(IMCET-2021)	International	AMCP, Peth-Vadgaon
4	Dr.S.B.Sutar	Kinetic Study of Melatonin By Validated Stability IndicatingHPTLC METHOD	International Conference on Emerging Trends in Drug Discovery and Development (ICETD3-2022)	International Presentation	AMCP, Peth-Vadgaon
5	Ms. S. S. Suryawanshi	Formulation and Evaluationof Ointment containing aqueous extract of <i>Quisqualis indica</i> Linn Leaves”	Cytogenetics, in vitro Culture and Phytochemistry of Plants and Microbes for Sustainable Use	Oral Presentation	AMCP, Peth-Vadgaon
6	Dr.S.B.Sutar	Structure Elucidation of DegradationProducts of Drospirenone by using Stability Indicating HPTLC Method" during Indo-Caribbean Virtual International Symposium	APP Indo-Caribbean Virtual International Symposium	International Oration	AMCP, Peth-Vadgaon

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7	Ms. Aishwarya Prakash Bhosale	Artificial Intelligence	ANationalLevelE-PosterCompetitionforPharmaFacultyorganizedbyAshokraoManegroupofPharmacyCollegesin collaborationwith AssociationofPharmaceuticalTeachersofIndia(APTI).	E-Poster	AMCP, Peth-Vadgaon
8	Ms. S. S. Suryawanshi	New Education Policy	ANationalLevelE-PosterCompetitionforPharmaFacultyorganizedbyAshokraoManegroupofPharmacyCollegesin collaborationwithAssociationofPharmaceuticalTeachersofIndia(APTI).	National Poster Presentation	AMCP, Peth-Vadgaon
9	Ms. S. S. Suryawanshi	Role of Tinispora cordifolia in boosting immune system	PRIP INNOVATE- 5 "Individual and Institutional Measures to Enhance the Effective use of Plants as Nutraceuticals	National Poster Presentation	AMCP, Peth-Vadgaon
10	Dr.S.B.Sutar	Forced degradation studies of drospirenone and in silico toxicology predictions for its new designated impurities	Global Conference on Pharmaceutics and Novel Drug Delivery Systems" Magnus Group Conferences and Organizing Committee	Invited Talk at International Conference	AMCP, Peth-Vadgaon
11	Mrs. Poonam Nilesh Chougule	Extraction, Isolation, Regioselective conversion followed by characterization of Escin: Principle active compound from Horse Chest Nut Seeds	NCMR 2022, PRIST University, Tamilnadu	Presentation	AMCP, Peth-Vadgaon
12	Ms. S. S. Suryawanshi	Formulation of Transdermal Patch of Diclofenac Sodium	International Conference (Online) on "Biomolecules to Biome"	International Conference (Online)	AMCP, Peth-Vadgaon
13	Ms.P.P.Patil	Antioxidant potential of polyherbal formulation – In vivo study	International Conference on Biomolecules to Biome held on August 24-25, 2022	International	AMCP, Peth-Vadgaon
14	Dr.S.B.Sutar	Forced Degradation Behavior of Melatonin: Isolation and Characterization of	3rd International Conference on Social Science, Management, And Technology In Covid Era organized by Indian Academicians and Researchers	International	AMCP, Peth-Vadgaon

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		Degradation Products	Association in association with Institute for Scientific Research and Development (ISRD),		
AY 2020-21					
15	Dr.S.B.Sutar	Design, Development and Optimization of Afatinib Solid Lipid Nanoparticles Using Hot Homogenization Followed by Solvent Emulsification Method	Gdansk University of technology, Poland.MGM University, Kerala	International Online Conference	AMCP, Peth-Vadgaon
16	Dr.S.A.Bandgar	Multiple Emulsions for the Co-delivery of Simvastatin and Alendronate Sodium: Improvement in Pharmacokinetic Profile and Oral Therapeutic Efficacy.	First International Online Conference on Blends, Composites, Bio-composites and Nanocomposites (ICNC-2020)	International	AMCP, Peth-Vadgaon
17	Mrs. P. S. Sankpal	Colon Available Bioactive Compounds Exhibit Anticancer Effect on In-vitro Models of Colorectal Cancer”	Geetanjali College of pharmacy, Telangana	State level	AMCP, Peth-Vadgaon
18	Dr.S.B.Sutar	Simultaneous determination of melatonin impurities by an HPLC method coupled with diode array detection	RAKCOPS-ICDD 2021 e-Conference	International Online Conference	AMCP, Peth-Vadgaon
AY 2019-20					
19	Dr.S.B.Sutar	Structure Elucidation of Oxidative Stress Degradation Product of Drospirenone	CRC Pharma LLC, New Jersey USA.	International	AMCP, Peth-Vadgaon
20	Dr.S.B.Sutar	Degradation Kinetic study of Melatonin in Alkaline and Acidic Medium by Validated Stability Indicating HPTLC Method	Indo-African Conference at Nootan College of Pharmacy, Narsinhgaon, Kavathemahankal, Sangli, Maharashtra	International	AMCP, Peth-Vadgaon
21	Kartikeyan M.	Anti-proliferative and apoptosis induction	71 Indian Pharmaceutical Congress, held at Sri	National	AMCP,

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		potentials of cynanchumcallialatuno n MCF cancer cell lines and in vivo models	Ramchandra Institute of higher education and research,ChennaiTamilnadu 20 th -22 nd Dec.2019		Peth-Vadgaon
22	Deepa MK	Targeted herbal nano particles for the treatment of colorectal cancer	71 Indian Pharmaceutical Congress, held at SriRamchandra Institute of higher education and research,Chennai Tamilnadu 20 th - 22 nd Dec.2019	National	AMCP, Peth-Vadgaon
23	Ms.N.D.Desai	Irritancy screening of various formulations by using hens egg test choroiallantoic	Avishkar2019-20 Shivaji University, Kolhapur	State	AMCP, Peth-Vadgaon
24	Dr.S.A.Bandgar	Mixed Micelles preparation for Co-delivery of Simvastatin and Alendronate Sodium: In-Vitro Anticancer activity.	2019-2020 Organized by Department of Technology, Shivaji University, Kolhapur	University Level	AMCP, Peth-Vadgaon
25	Dr.S.B.Sutar	Stability Indicating Studies And Characterization of Degradation Product of Drospirenon	2019-2020 Organized by Department of Technology, Shivaji University, Kolhapur	University Level	AMCP, Peth-Vadgaon
26	Dr.S.A.Bandgar	Mixed Micelles preparation for Co-delivery of Simvastatin and Alendronate Sodium: In-Vitro Anticancer activity.	Avishkar Research Convention University of Mumbai	State Level	AMCP, Peth-Vadgaon
27	Dr.S.B.Sutar	Forced degradation and stability studies of Drugs	Lead college, Bharati Vidyapeeth College of Pharmacy, Kolhapur.	University Level	AMCP, Peth-Vadgaon
AY 2018-19					
28	Mr.V.M. Patil	In-Vitro Antiuroliatiatic activity of plant extract of eleusine indica	Indian Pharmaceutical Congress at Delhi	National	AMCP, Peth-Vadgaon
29	Mr.RajanikantB. Ghotane	Method Development and Validation of RP-HPLC Method For Estimation of Drotaverine Hydrochloride and	Indian Pharmaceutical Congress at Delhi	National	AMCP, Peth-Vadgaon

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		Omeprazole From its Tablet Formulation			
30	Dr.S.A. Bandgar	Design, Development and Characterization of Solid Lipid Nanoparticles of Prazosin by Hot Homogenization method	Indian Pharmaceutical Congressat Delhi	National	AMCP, Peth-Vadgaon
31	Ms.P.J.Gaikwad	RP HPLC Method for degradation study of Lornoxicam	Avishkar 2018 Shivaji University	State	AMCP, Peth-Vadgaon
32	Dr.S.B.Sutar	"Phytochemical Investigation of Eleusine Species Anthelmintic And Antioxidant Activities	2018-19(Central) Research Scholar Category, Agriculture Shivaji University, Kolhapur	University	AMCP, Peth-Vadgaon
33	Dr.S.B.Sutar	"Spectrophotometric And Rp-HPLC Method Development and Validation for Estimation Of Melatonin"	International Seminar on Trends in Pharmacy Practice 4 th 5 th Jan 2018 organized by Dr. D. Y. Patil Pharmaceutical Sciences and Research	International Seminar	AMCP, Peth-Vadgaon
34	Ms.P.P.Patil	"Development Of UV-Spectrophotometric Method for The Anti-Cancer Drugs in Pure and Dosage Form"	International Seminar on Trends in Pharmacy Practice 4 th 5 th Jan 2018 organized by Dr.D.Y.Patil Pharmaceutical Sciences and Research	International Seminar	AMCP, Peth-Vadgaon
35	Dr.S.B.Sutar	"Phytochemical Investigation of Eleusine Species For Anthelmintic And Antioxidant Activities	Inter-University Research Convention Avishkar 2018 at Gondwana University, Gadchiroli	University	AMCP, Peth-Vadgaon
AY 2017-18					
36	Dr.S.A.Bangar	Antirolithiatic effect of Canna Indical	Avishkar2017-18(Central) Agriculture Shivaji University, Kolhapur	University	AMCP, Peth-Vadgaon

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Additional documents of Papers published in national/ international conference proceedings.



E-

School of Energy Materials (SEM)
Mahatma Gandhi University
Priyadarsini Hills
Kottayam-686 560, Kerala, India
 Telephone: 91-481-2730003, 2597914 (Office)
 mail: macromolecules@macromol.in

09/07/2021

Date:

2021

Ref: No.016/ICM

OFFICIAL INVITATION LETTER

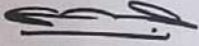
Dr. Shubhangi B. Sutar
 Assistant Professor and PG Teacher
 Ashokrao Mane College of Pharmacy,
 Peth-Vadgaon, Kolhapur.
 Maharashtra, India

Dear Dr. Shubhangi,

School of Energy Materials (SEM), Mahatma Gandhi University, Kottayam, Kerala, India is proud of having the opportunity to welcome you for an **invited talk** in the International Online Conference on Macromolecules (ICM-2021) to be held from **10, 11 and 12 September 2021 at Mahatma Gandhi University, Kottayam, Kerala, India**. Your proposed talk is very important for the conference. Your experience in the various fields will greatly contribute to enrich the conference. Your participation would lead to future collaboration with your institute in areas of mutual interest and expertise. Additionally we can also plan joint EU project under "HORIZON 2020"

As you know the main aim of the conference is to bring together researchers from academia and industry to share their knowledge on the recent developments in the field of macromolecular science. This conference will be one of the biggest international meetings dedicated to the macromolecular science. We are extremely happy to welcome you to this international gathering to give an **invited talk**.

I look forward to meeting you at the conference.




CHAIRMAN
ICM 2021, INDIA


Prof. Sabu

DIRECTOR
SCHOOL OF ENERGY MATERIALS
MAHATMA GANDHI UNIVERSITY
P. D. Hills P.O., Kottayam- 686 560
 Kerala, India

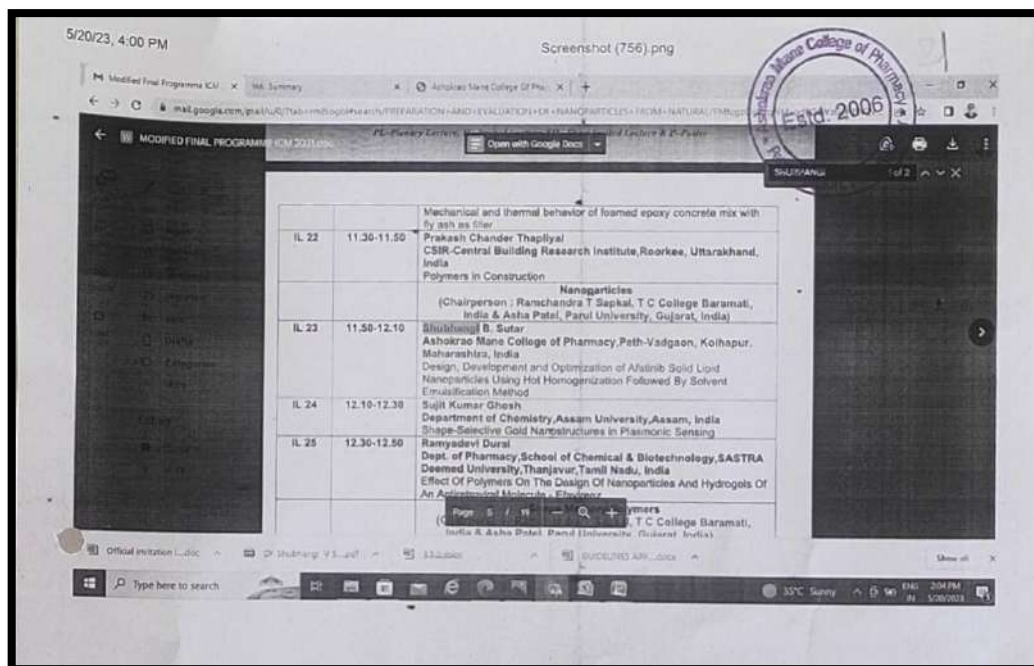
Thomas



PRINCIPAL
 Ashokrao Mane College of Pharmacy
 Ashokrao Mane College of Pharmacy
 Peth-Vadgaon, Dist. Kolhapur.



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Design, Development and Optimization of Afatinib Solid Lipid Nanoparticles Using Hot Homogenization Followed By Solvent Emulsification Method

Shweta R. Patil¹, Shubhangi B. Sutar^{1*}, Sachinkumar V. Patil²

¹Department of Pharmaceutical Quality Assurance, Ashokrao Mane College of Pharmacy, Peth Vadgaon, Maharashtra, India.

²Department of Pharmaceutics, Ashokrao Mane College of Pharmacy, Peth Vadgaon, Maharashtra, India.

Corresponding Author:

Ms. Shubhangi B. Sutar

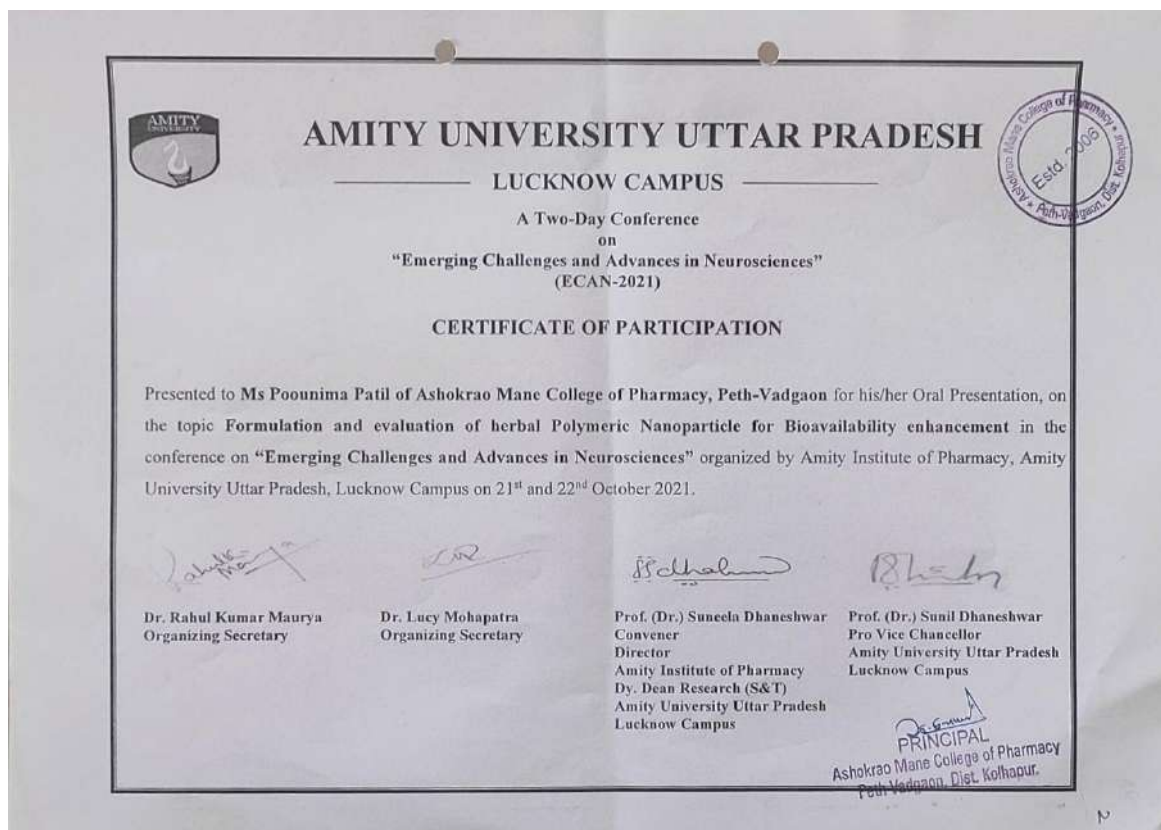
Email: Shubhangi_sutar28@gmail.com

Ph. No.: +917276114156

ABSTRACT

Solid lipid nanoparticles have been applicable for the formulation of poorly water soluble drugs to improve their bioavailability. Prime objective of the present investigation is to design, development and evaluation of solid lipid nanoparticles (SLNs) of anticancer agent Afatinib. Hot homogenization followed by solvent emulsification method was selected for preparation. In the present study SLNs of Afatinib were successfully prepared by using two factor, three level (3²) full factorial design and it was applied to study the effect of independent variables on dependent variables and optimized with respect to surfactant concentration, lipid concentration and drug

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FORMULATION AND EVALUATION OF POLYHERBAL NANOPARTICLES FOR BIOAVAILABILITY ENHANCEMENT

ABSTRACT

The anticancer activity and pharmacokinetic properties of encapsulated polyherbal nanoparticles (Gallic acid and quercetin nanoparticle) and polyherbal extract (Amla and pomegranate fruit peels) in normal and DMH-induced colorectal cancer in rats were examined in this work. In normal and DMH-induced rats, a pharmacokinetic study demonstrated that polyherbal nanoparticles had a typical sustained release profile with a 4-fold increase in bioavailability when compared to polyherbal extract. Based on serum-concentration profiles of polyherbal nanoparticles and polyherbal extract following oral administration, the pharmacokinetic parameters for polyherbal nanoparticles and polyherbal extract were established using a single compartmental approach. This research suggests that encapsulating Gallic acid and quercetin in polymeric nanoparticles improves their oral bioavailability and anti-colon cancer efficacy. Polymeric nanoparticles could be a novel therapeutic possibility for carcinogenesis prevention.

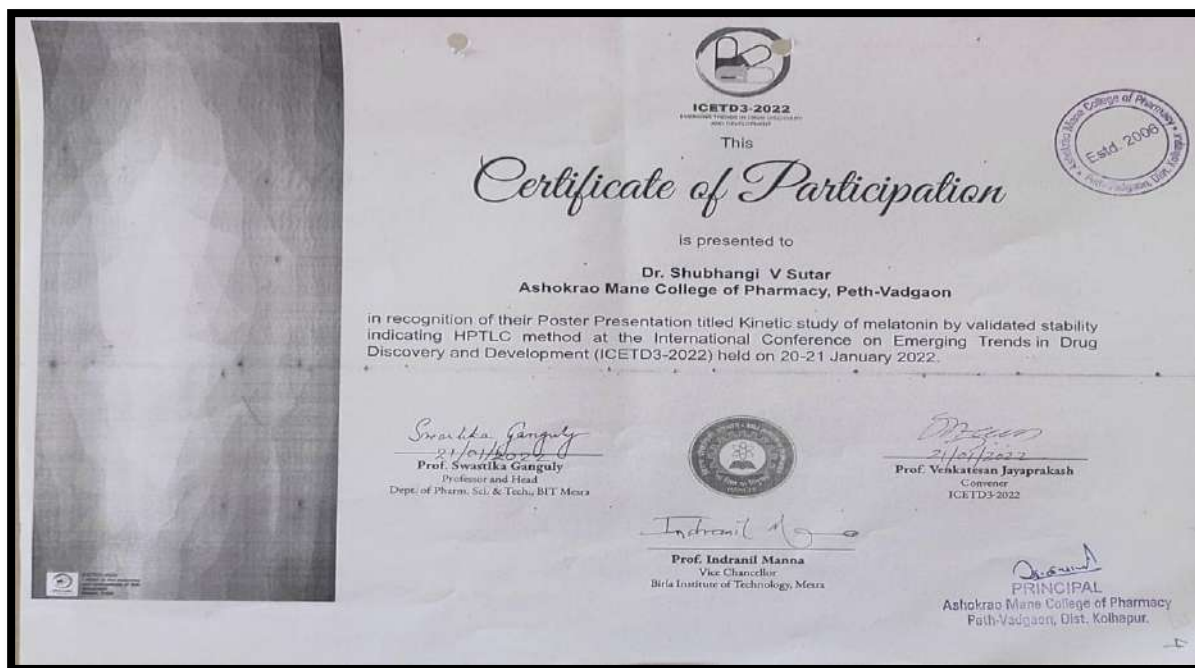
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SYNTHESIS OF HERBAL NANOPARTILES AND THEIR APPLICATION IN THE TREATMENT OF COLORECTAL CANCER

Cancer was ranked as the second leading cause of death, and colon cancer is recognized as third most common cancer worldwide with high morbidity and mortality. Chemotherapeutic drugs act on normal and cancerous cells similarly; therefore, they have various adverse side effects. The present study was undertaken synergistic effect of anticancer phytochemicals gallic acid isolated from amla fruit and quercetin isolated from peels of pomegranate fruit incorporated into chitosan have been used as nanopatform for the targeted delivery to colorectal cancer. The study was evaluated using cytotoxic assay such as MTT assay and in-vivo studies were performed on DMH induced colorectal cancer in Wistar rats. Identification of the biomolecules was performed by using different chromatographic and spectroscopic techniques, as 1H NMR, GC-MS, LC-MS, and HPTLC. Characterization of (CS) nanoparticles carried out by using X-ray diffraction (XRD) Differential scanning calorimetry (DSC), Scanning Electron Microscope (SEM), entrapment efficiency and In vitro drug release confirmed successful encapsulation of biomolecules into nanoparticles. A significant change in aberrant crypt foci (ACT) in CS nanoparticles compared to polyherbal extract were observed, with a decrease in the colonic glutathione, catalase and superoxide dismutase levels and values differed significantly (P < 0.005).

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KINETIC STUDY OF MELATONIN BY VALIDATED STABILITY INDICATING HPTLC METHOD
216
Shubhangi V. Sutar*, Sachinkumar V. Patil
Ashokrao Mane College of Pharmacy, Peth-Vadgaon, Kolhapur, Maharashtra

ABSTRACT:
Background: Chemical stability of pharmaceutical molecules is a matter of great concern as it affects the safety and efficacy of the drug product. Some degradation products and impurities may even have toxic effects. Therefore, it is very important to develop proper stability indicating method for Melatonin which possibly be used for stability testing and routine analysis. Method: A rapid, sensitive with stability indicating HPTLC method be developed and validated to study degradation kinetics of Melatonin (MT) in alkaline, acidic and oxidative conditions. All degraded samples be chromatographed on Silica gel 60F 254 plates, developed using solvent system toluene: methanol: formic acid (7:3:0.1) and scanned at 290nm. The developed method was validated as per ICH guidelines using validation parameters such as specificity, linearity and range, precision, accuracy, LOD and LOQ. Result: Degradation kinetics of MT in acidic and alkaline medium was studied by degrading it underneath three distinct concentrations of alkali and acid at three different time interval. Degradation of Melatonin into the alkaline and acidic medium was found to follow First order kinetics. Acid, alkaline and oxidative degradation reactions studied to determine the rates of the reaction and susceptibility of Melatonin. Conclusion: The HPTLC technique established in this work is precise, specific, and accurate stability indicating statistical analysis proves the method is suitable for analysis of Melatonin. Melatonin degraded in acidic, alkaline, oxidative stress conditions. Alkaline and acidic degradation of Melatonin followed first order kinetics and higher degradation was found in 1N NaOH and 1N HCL. Keywords: Stability indicating method, HPTLC, Degradation Kinetics.

Sr. No.	Concentration (mg)	Peak Area*
1	30	956.65
2	60	1317.44
3	90	1675.08
4	120	2054.71
5	150	2353.7
6	180	2740

Temperature	Strength of NaOH	Degradation Rate Constant K (per Hrs.)	Half Life (hr.)	Order of Reaction
60°C (Initial, 1hr, 2hr)	0.1	0.080	8.66	First
	0.5	0.1842	3.67	First
	1.0	0.5527	1.25	First

Temperature	Strength of HCL	Degradation Rate Constant K (per hr)	Half Life (hr)	Order of Reaction
60°C (Initial, 1hr, 2hr)	0.1	0.0460	15.06	First
	0.5	0.1266	5.470	First
	1.0	0.3569	1.941	First

Table No.1 Optimized Chromatographic conditions

Stationary Phase	Aluminium plates precoated with silica gel 60
Mobile Phase	Toluene: Methanol: Formic acid (7:3:0.1)
Plate size	10cm x 10cm
Mode of application	Band
Band Size	6mm
Sample applicator	0.5µl
Development Chamber	Twin-through glass chamber, 10cm x 10cm with stainless steel lid
Saturation Time	10 minutes

Conclusion: HPTLC technique established in this work is precise, specific, accurate and stability indicating statistical analysis proves the method is suitable for analysis of Melatonin. Melatonin degraded in acidic, alkaline, oxidative stress conditions. Alkaline and acidic degradation of Melatonin followed first order kinetics and higher degradation was found in 1N NaOH and 1N HCL. Acid, alkaline and

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Two Days National Seminar (Online) on Cytogenetics, in vitro Culture and Phytochemistry of Plants and Microbes for Sustainable Use" Oral Presentation on Formulation and Evaluation of Ointment containing aqueous extract of *Quisqualis indica* Linn Leaves

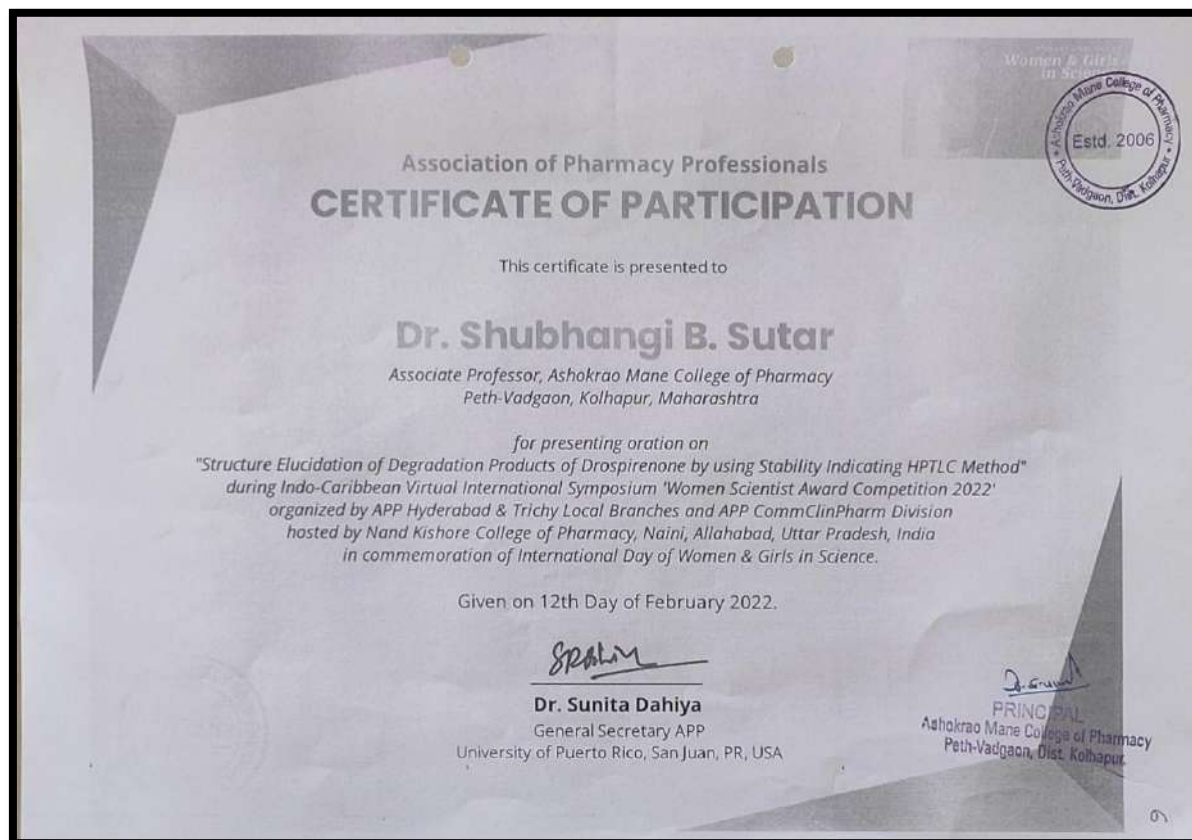
Sarika S. Suryawanshi,¹Pranali P. Patil,² Sachinkumar V. Patil,³ Poomima S. Patil⁴
Ashokrao Mane College of Pharmacy, Peth Vadgaon, Kolhapur (Maharashtra)

Abstract

Present study was to extent ointment formulation by using herbal extract of *Quisqualis indica* linn leaves. Aqueous extract of *Quisqualis indica* linn leaves was prepared by maceration process. By using levigation method ointment base was prepared and extract was incorporated. Prepared formulation was analyzed for its physicochemical parameter like colour, odour, consistency, pH, melting point, spreadability, loss on drying, solubility, washability and penetration study. Penetration study carried out by Franz Diffusion Cell apparatus. Formulations were compared with marketed formulation.

Key words: Herbal ointment, Levigation, spreadability

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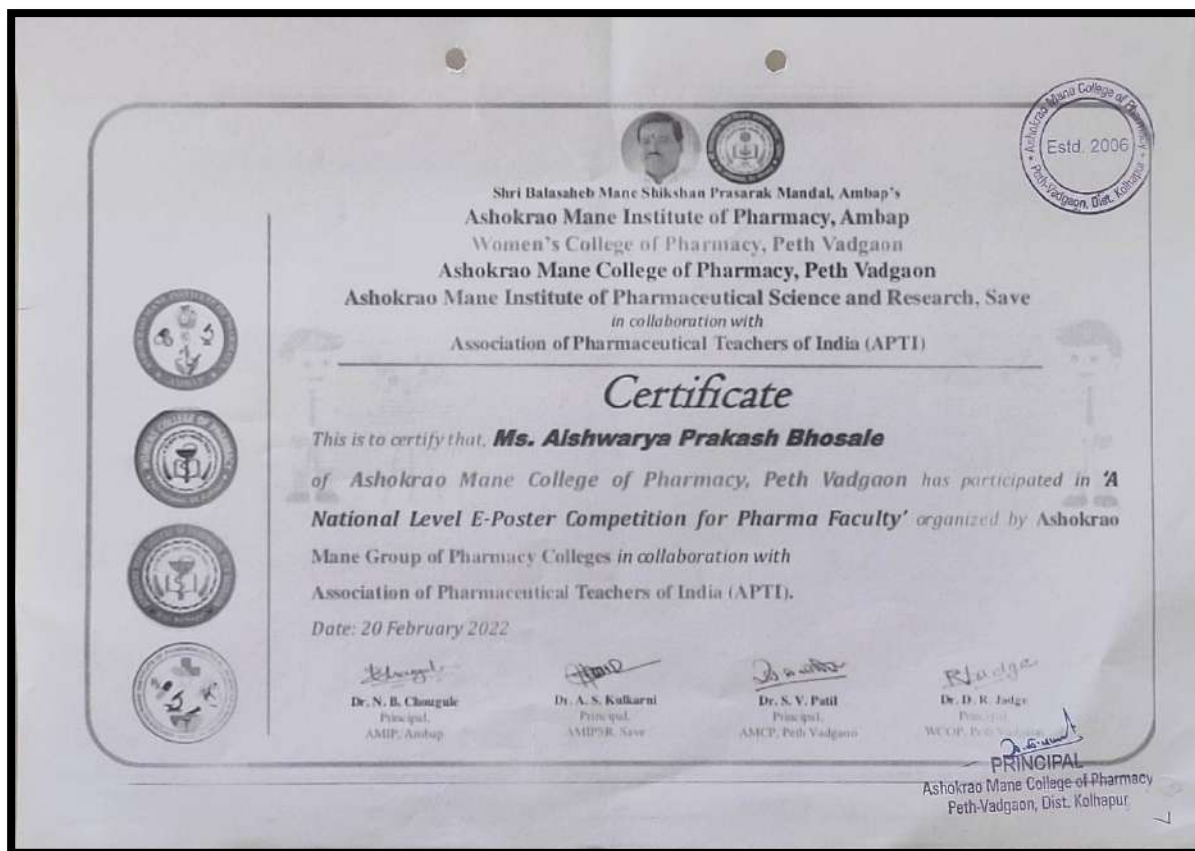
**STRUCTURE ELUCIDATION OF DEGRADATION PRODUCTS OF
DROSPIRENONE BY USING STABILITY INDICATING HPTLC
METHOD**

Shubhangi B.Sutar, Sachinkumar Patil

Ashokrao Mane College of Pharmacy, Peth-Vadgaon, Kolhapur, Maharashtra, India

ABSTRACT

Aim and Objective: To remain safe for further processing or human consumption, study of stressed degradation for the identification of feasible degradants is required. The stability indicating high performance thin layer chromatographic method was developed by using Camag HPTLC system. **Materials and Methods:** Silica C60F254 precoated TLC plates were used as stationary phase for separation of degradation products. The optimized mobile phase system consisted of toluene: methanol: diethylamine (7:3:0.1) at 280 nm. **Results:** From the mass details and IR, NMR interpretation, the plausible structure of alkaline degradation product of drospirenone could be 17α (3-hydroxy propyl)- 6β , 7β , 15β , 16β -dimethylene- 5β -androstane- $3\beta,5,17\beta$ triol and acidic degradation product of drospirenone could be 3-oxo- $15\alpha,16\alpha$ -dihydro- 3^1H -cyclopropa[15,16]- 17α -pregna-4,6-diene-21,17-carbolactone. Also *In Silico* toxicity studies



Artificial Intelligence in Healthcare

Ms. Aishwarya Prakash Bhosale

Introduction

Artificial intelligence (AI) has captured society's imagination and generated enthusiasm for its potential to improve our lives. Presently, AI already plays an integral role in our daily routines and our interactions with medicine, management, and communication.

There is an increasing interest in the applications of AI in healthcare to improve disease diagnosis, management, and the development of effective therapies.

Given the large number of patients diagnosed with cancer and significant amount of data generated during cancer treatment, there is a specific interest in the application of AI to improve oncologic care.

Applications of AI in Healthcare

- Chatbots
- Robotic Surgeries
- Virtual Nursing Assistants
- Precision Medicine
- Administrative Workflow Assistance

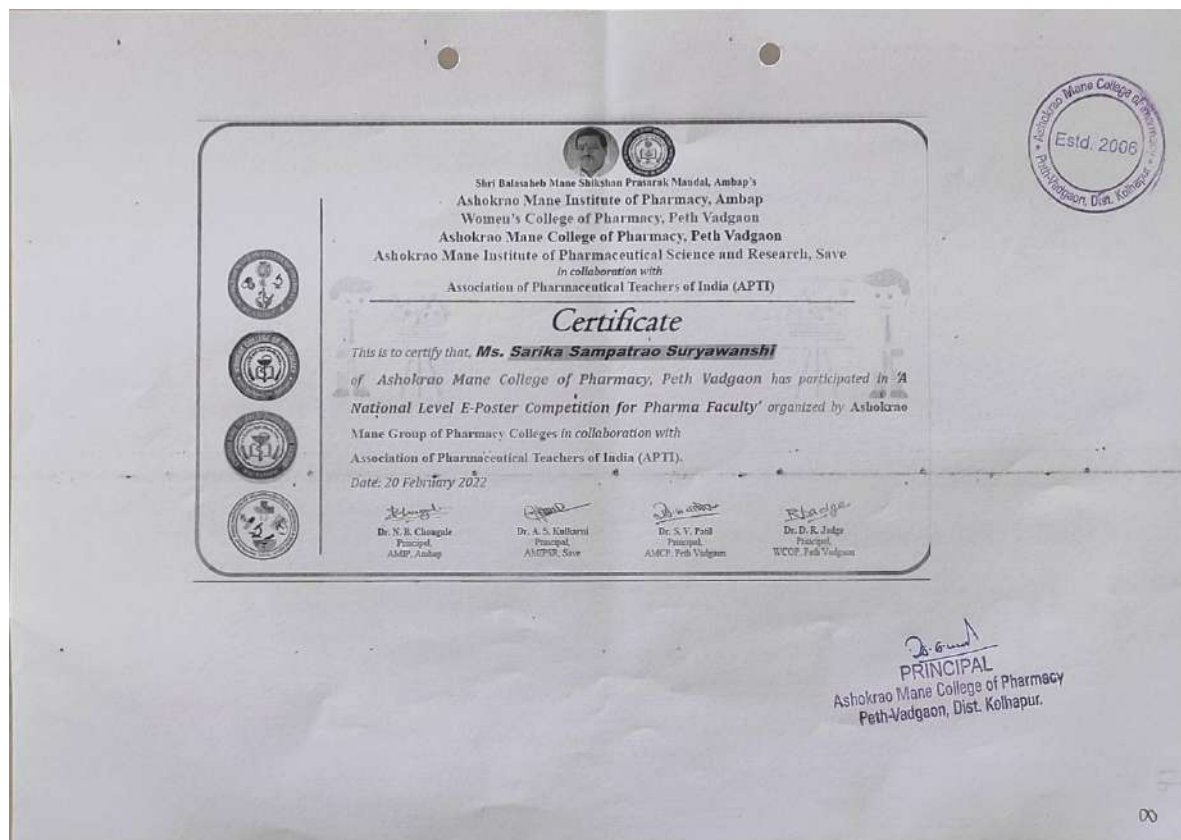
Conclusion:

- Digitization of health care is dramatically changing clinical workflow by providing both healthcare providers and patients with access to information based on big data.
- Experience-based medicine is being replaced with an evidence-based, patient-centric approach.
- Rapidly evolving AI technology will continue to have a large impact on the field of cancer in the near future.

References:

- Benjamin H. Kann, Reid Thompson, Charles R. Thomas, Jr., Adam Dicker, Sanjay Anuja "Artificial Intelligence in Oncology: Current Applications and Future Directions" *Oncology*, *Oncology* Vol 33 No 2, Volume 33, Issue 2020 Mar 21, 2020 May; 111(5): 1452-1460.
- Hideyuki Shimizu and Keichi I. Nakayama, "Artificial intelligence in oncology", 2020 Mar 21, 2020 May; 111(5): 1452-1460.
- <https://www.computingdigital.com/blog/ai-in-healthcare-top-5-real-world-examples>

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A State Level E- Poster Competition for Pharma Faculty

New Education Policy
Ms S. S. Suryawanshi* Dr. S. V. Patil Ashokrao Mane College of Pharmacy, Peth Vadgaon

"Education must build character, enable learners to be critical, rational and caring, while at the same time prepare them for gainful, fulfilling employment"

Reference

https://www.mhrd.gov.in/npa2020/npa2020/npa2020.html

Introduction

Aim - To design a vision & framework for both school education & higher education in India. It is based on recommendations of Kasturirangan and T. S. R. Subramanian committees.

29 July 2020 NEP 2020 (Quality Education)

1986 National Policy on Education (NPE) modified in 1992. (Access & Equity) (Availability of education & fairness)

Evolution of Education Policy

- University Education Commission (1948-49)
- Secondary Education Commission (1952-53)
- Education Commission (1964-66) under Dr. D.S. Kothari
- National Policy on Education, 1988
- 42nd Constitutional Amendment, 1976-Education in Concurrent List
- National Policy on Education (NPE), 1986
- NPE 1986 Modified in 1992 (Program of Action, 1992)
- T.S.R. Subramanian Committee Report (27 May, 2016)
- Dr. K. Kasturirangan Committee Report (31 May, 2019)

Major Reforms : School & Higher Education

NEP proposes change the school's academic structure from (10+2 years) of schooling format to (5+3+3+4 years)

The undergraduate (UG) degree structure will be available for 3-4 years duration. Now it has multiple entry & exit options.

Credit - Based

* 1 credit = 1 hour of teaching (lecture or tutorial)
* 2 hours of practical / field work

To discontinue M. Phil program.

The higher educational institutes now will have option of offering a 1 year master's degree under the NEP2020

UG + 3	UG + 4
Under Grad (3 year UG course)	1 year (Master's degree)
Masters 1, 2	1 year
(3 + 2) structure	(4 + 1) structure

Use of Technology

- Use of Technology in Education Planning
- Teaching, Learning & Assessment
- Administration & Management
- Regulation - Self Disclosure & Minimum Human Interface
- Increasing Access for Disadvantaged Groups
- DIYing Friendly Education Software
- e-Content in Regional Languages
- Virtual Labs
- National Educational Technology Forum (NETF)
- Digital Equipping Schools, Teachers and Students

Requires huge resources in creation of infrastructure, personnel, institutions.

NEP,2020 has set a target of 6% of GDP as target at the national level.

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PULLA REDDI INSTITUTE OF PHARMACY

Dommadugu (V), Hyderabad, Telangana- 502 313.
(Approved by PCI & Affiliated to JNTUH)

Certificate of Presentation

This is to certify that

Ms. Sarika Sampatrao Suryawanshi

of Ashokrao Mane College of Pharmacy, Peth Vadgaon

has participated and presented ePoster entitled *Role of Tinospora Cordifolia in Boosting Immune System* in the National Webinar PRIP INNOVATE 5: "Individual and Institutional Measures to Enhance the Effective use of Plants as Nutraceuticals" organized by Department of Pharmacognosy & Biotechnology on 26th February 2022.

Dr. V. Rama Mohan Gupta
 CONVENOR

Mr. Narasimhachar Joshi
 CO-CONVENOR

NATIONAL WEBINAR PRIP INNOVATE-5 "Individual and Institutional Measures to Enhance the Effective use of Plants as Nutraceuticals"

Role of *Tinospora cordifolia* in Boosting Immune system

S. S. Suryawanshi* Mrs P. P. Patil, Mrs P. S. Sankpal, Assistant Professor College: Ashokrao Mane College of Pharmacy, Peth Vadgaon
sarika.suryawanshi@amcoph.com Contact No: 8600503621

<p>ABSTRACT</p> <p>Medicinal plants are considered as green gold owing to their indispensable contribution to the plant based medicines, health care, pharmaceuticals, food supplements, cosmetics etc. <i>Tinospora cordifolia</i> commonly known as giloi is used in the traditional ayurvedic medicine and Indian System of Medicine (ISM) since times immemorial. In this manuscript, the nutritional composition of <i>T. cordifolia</i> along with its antioxidant activities has been highlighted. The starch obtained from the stem of the plant known as "Guduchi-sattu" is highly nutritive and digestive and used in many diseases. <i>Tinospora</i> can be a valuable dietary and health supplement that can help in sustains, holistic health, and prevention of numerous diseases.</p> <p>Keywords: <i>Tinospora cordifolia</i>, giloi, dietary supplement, medicinal plant</p>	<p>Introduction</p> <p><i>Tinospora cordifolia</i> commonly named as "Guduchi" in Sanskrit belonging to family Menispermaceae is a genetically diverse, large, deciduous climbing shrub with greenish yellow typical flowers, found at higher altitude. In racemes or racemose panicles, the male flowers are clustered and female are solitary. The flowering season expands over summers and winters. A variety of active components derived from the plant like alkaloids, steroids, diterpenoid lactones, aliphatics, and glycosides have been isolated from the different parts of the plant body, including root, stem, and whole plant. Recently, the plant is of great interest to researchers across the globe because of its reported medicinal properties like anti-diabetic, anti-peptic, anti-spasmodic, anti-inflammatory, anti-arthritis, anti-oxidant, anti-allegic, anti-stress, anti-leprotic, anti-malarial, hepatoprotective, immunomodulatory and anti-neoplastic activities.</p> <div style="display: flex; justify-content: space-around;"> </div> <div style="display: flex; justify-content: space-around;"> </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <th style="width: 50%;">Name of Market Product</th> <th style="width: 50%;">Biological Role</th> </tr> <tr> <td>Toplix</td> <td>Increase immunity</td> </tr> <tr> <td>Guduchi</td> <td>The immune system and the body's resistance to infections</td> </tr> </table>	Name of Market Product	Biological Role	Toplix	Increase immunity	Guduchi	The immune system and the body's resistance to infections	<p>Chemical Constituents</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Active Component</th> <th>Part of plant</th> <th>Compound</th> <th>Biological Activity</th> </tr> </thead> <tbody> <tr> <td>Glycosides</td> <td>Stem</td> <td>18-norclerodane glucoside, Furanoid diterpene glucoside, Tinoscordioside, Tinoscordifolioside, Cordifolioside, Syringin, Cordifolioside, Syringin apiosylglycoside, Pregnane glycoside, spine and Palmatosides, Cordifolioside A, B, C, D and E</td> <td>Treats neurological disorders like ALS, Parkinsons, Dementia, motor and cognitive deficits and neuron loss in hypothalamus, immunomodulation,</td> </tr> <tr> <td>Alkaloids</td> <td>Stem, Root</td> <td>Berberine, Choline, Tembetarine, Magnoflorine, Tinosporin, Palmatine, Isocolumbin, Aporphine alkaloids, Jabrorrhizine, Tetrahydropalmatine,</td> <td>Anti-viral infections, Anticancer, in inflammation, immunomodulatory, neurological, psychiatric conditions</td> </tr> </tbody> </table> <p>Immuno booster Activity</p> <p>Active compounds 11- hydroxymastakone, N-methyl-2-pyrrolidone, N-formylmannonin, cordifolioside A, magnoflorine, tinoscordioside and syringin has been reported to have potential immunomodulatory and cytotoxic effect. Vabhav Aher et al study confirms the immunomodulatory activity of <i>Tinospora cordifolia</i> ethanolic extract (100 mg/kg p.o.) stem through altering the concentration of antioxidant enzymes, increasing T and B cells and antibody which play an important role in immunity</p> <p>Aqueous <i>Tinospora</i> extracts has been also reported to influence the cytokine production, mitogenicity, stimulation and activation of immune effector cells. Orally administration of <i>T. cordifolia</i> alcoholic extract (100 mg/kg, p.o) was found distinct increase in foot pad thickness and dendritic frequency in the BALB/c mice.</p> <p>Conclusion: <i>T. cordifolia</i> is a medicinal plant having various type of compounds. The different bioactive compounds, including alkaloids, steroids, glycosides, sesqui terpenoids, etc have been discussed. Present poster spotlights the immunomodulating activity. It has been used successfully in Ayurvedic medicine from the ancient era, and its products are used for their better economic and therapeutic utilization.</p> <p>References:</p> <ol style="list-style-type: none"> Rana V, Thakur K, Sood R, Sharma V, Sharma TR. Genetic diversity analysis of <i>Tinospora cordifolia</i> germplasm collected from northwestern Himalayan region of India. <i>J. Genet.</i> 2012;91:99-103 MQJ. Khada, A. Khaleque, N. Ray, <i>Tinospora cordifolia</i> constituents of plants fresh from the field, <i>Sci. Res.</i> 1 (1964) 177-183. 	Active Component	Part of plant	Compound	Biological Activity	Glycosides	Stem	18-norclerodane glucoside, Furanoid diterpene glucoside, Tinoscordioside, Tinoscordifolioside, Cordifolioside, Syringin, Cordifolioside, Syringin apiosylglycoside, Pregnane glycoside, spine and Palmatosides, Cordifolioside A, B, C, D and E	Treats neurological disorders like ALS, Parkinsons, Dementia, motor and cognitive deficits and neuron loss in hypothalamus, immunomodulation ,	Alkaloids	Stem, Root	Berberine, Choline, Tembetarine, Magnoflorine, Tinosporin, Palmatine, Isocolumbin, Aporphine alkaloids, Jabrorrhizine, Tetrahydropalmatine,	Anti-viral infections, Anticancer, in inflammation, immunomodulatory , neurological, psychiatric conditions
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Day
03

Pharma 2022



Shubhangi BS^{1*}, Patil SV²
¹Mane College of Pharmacy, Maharashtra, India
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Forced degradation studies of drospirenone and in silico toxicology predictions for its new designated impurities

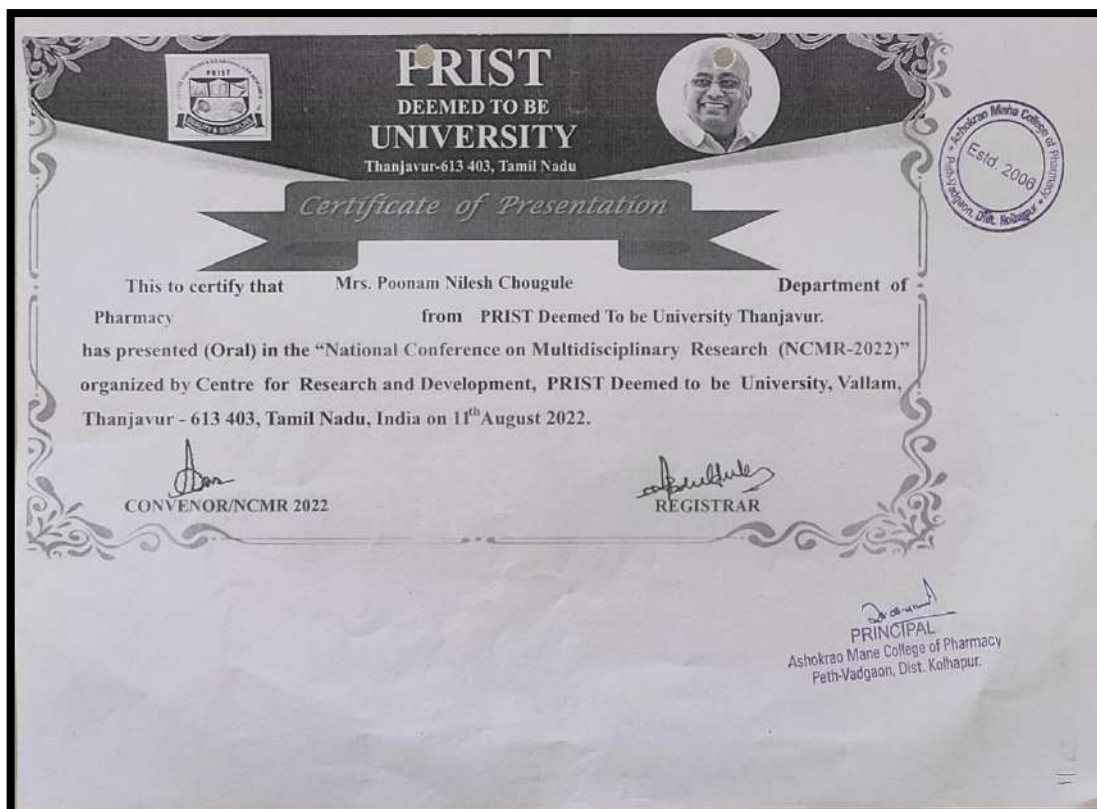
Aim and Objective: To remain safe for further processing or human consumption, study of stressed degradation for the identification of feasible degradants is required. The stability indicating high performance thin layer chromatographic method was developed by using Camag HPTLC system.

Materials and Methods: Silica C60F254 precoated TLC plates were used as stationary phase for separation of degradation products. The optimized mobile phase system consisted of toluene: methanol: diethylamine (7:3:0.1) at 280 nm.

Results: From the mass details and IR, NMR interpretation, the plausible structure of alkaline degradation product of drospirenone could be 17 α (3-hydroxy propyl)-6 β , 7 β , 15 β , 16 β -dimethylene-5 β -androstane-3 β ,5,17 β triol and acidic degradation product of drospirenone could be 3-oxo-15 α ,16 α -dihydro-3'H-cyclopropa[15,16]-17 α -pregna-4,6-diene-21,17-carbolactone. Also *In Silico* toxicity studies of the degradation products were performed to assess the toxicity profile of the products using Prottox online sever.

Conclusion: This analytical method can be considered as an alternative practical and inexpensive method for simple, accurate and efficient quantitative detection of drospirenone in the presence of its degradation products.

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Extraction, Isolation, Regioselective Conversion followed by characterization of Escin: Principle venoactive compound from Horse Chest Nut Seeds

Mrs. Poonam Nilesh Chougule^{a,b}, Dr. Nilesh Chougule^c, Dr. Kailasam Koumaravelou^d
^aResearch Scholar, PRIST University, Centre for Higher Learning & Research, Trichy- Thanjavur Highway, Thanjavur, 613403 Tamil Nadu, India.
^bAshokrao Mane College of Pharmacy Peth Vadgaon, 416112, Maharashtra, India
^cAshokrao Mane Institute of Pharmacy Ambay, 416112, Maharashtra, India.

ABSTRACT

Horse chestnut seeds are abundant source mainly containstriterpenoid saponins. with thirty molecules isolated and characterized. Out of which escin, which is a combination of acylated triterpene glycosides composed of α - and β -escin, is the major biologically active component of horse chestnut seed extract. α escin and β escin, which can be distinguished by their melting points, hemolytic indices, water solubilities, and specific rotations. Multiple research articles have scientifically available for separation of only escin component. In present research study industrial scale extraction, isolation and regioselective separation techniques of α escin and β escin is compiled. The regioselective separation was carried out in ecofriendly solvents, where purity and yield parameters were optimized. In characterization study, solubility study, it was

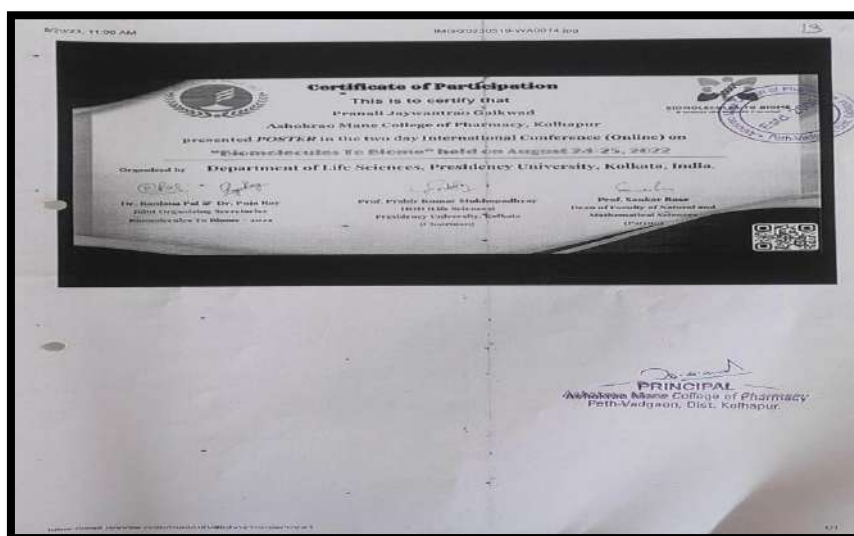
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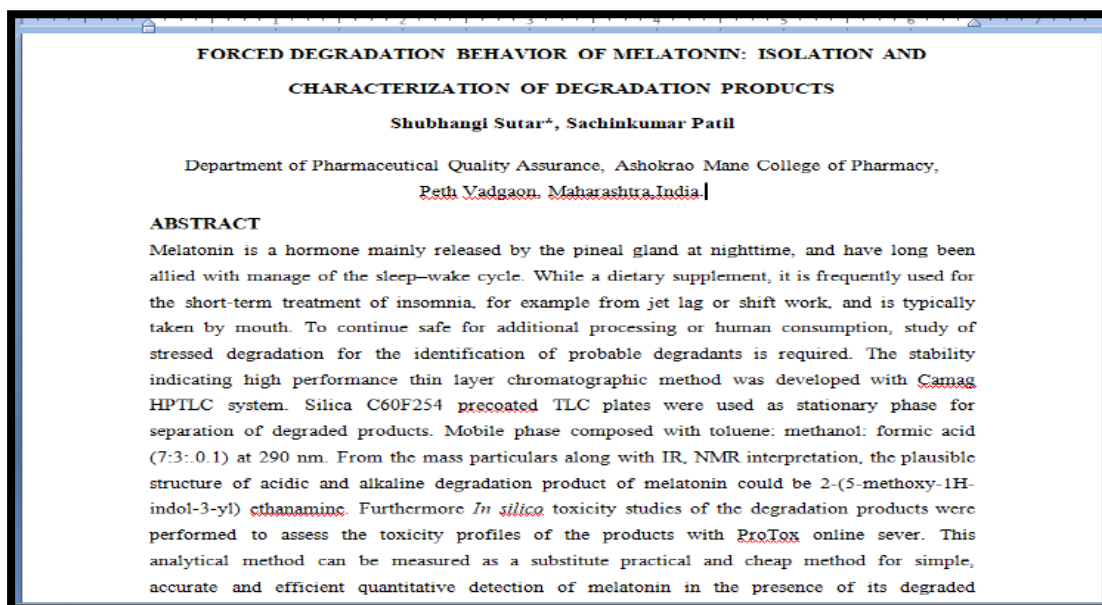
Presented *POSTER* in the two day International Conference (Online) on
"Biomolecules To Biome" held on August 24-25, 2022
Organized by Department of Life Sciences, Presidency University, Kolkata
Theme: Human Biology
Formulation & Evaluation of Transdermal Patch of Diclofenac Sodium
Sarika, S.Suryawanshi, S. V. Patil, P. P. Patil, P.S. Sankpal
Ashokrao Mane College of Pharmacy, Peth-Vadgaon, Kolhapur, Maharashtra.
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The Novel Drug Delivery System is used to deliver a drug. Transdermal patch is a mediated adhesive patch that is placed on the skin to deliver a specific dose of medication through the skin and into the blood stream. Patch gives local as well as systemic action. Diclofenac sodium is non-steroidal anti-inflammatory agent, widely used in musculoskeletal disorders, arthritis, toothache, etc. Patch was prepared by using solvent evaporation method employing controlled release grades of HPMC E15 (hydroxypropyl methyl cellulose). HPMC E15, K12, K100, K1000 with required amount of alcohol & water. Patch was evaluated by Physicochemical Parameters, Drug content & In vitro drug release studies etc. From prepared formulations F3 shows better drug release.

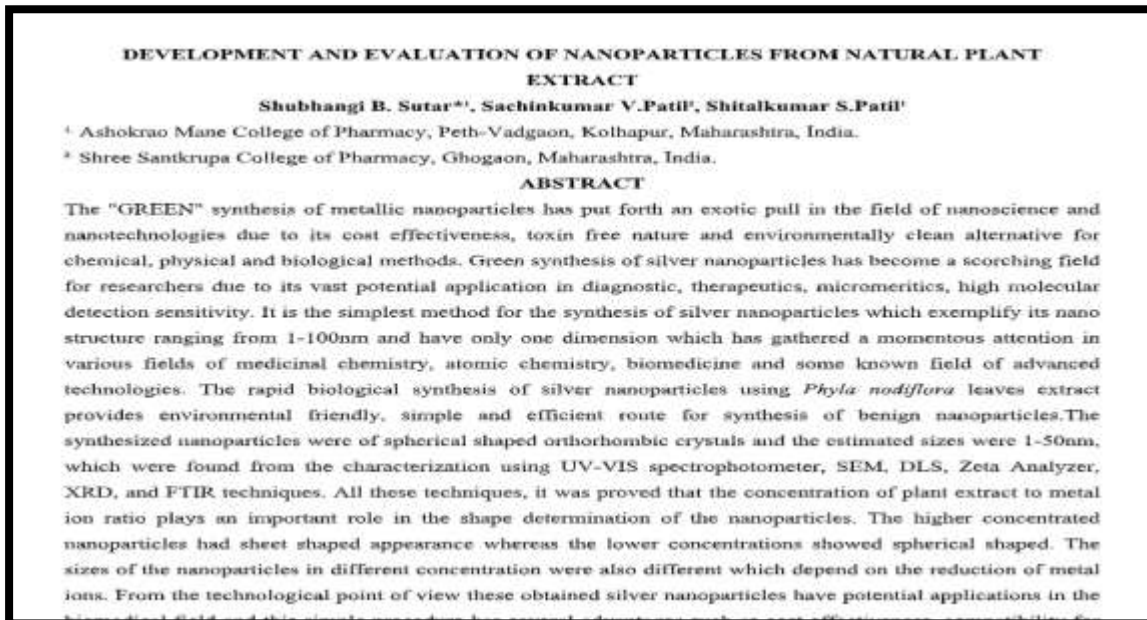
Key Words: Diclofenac Sodium, Transdermal patch, HPMC, In vitro



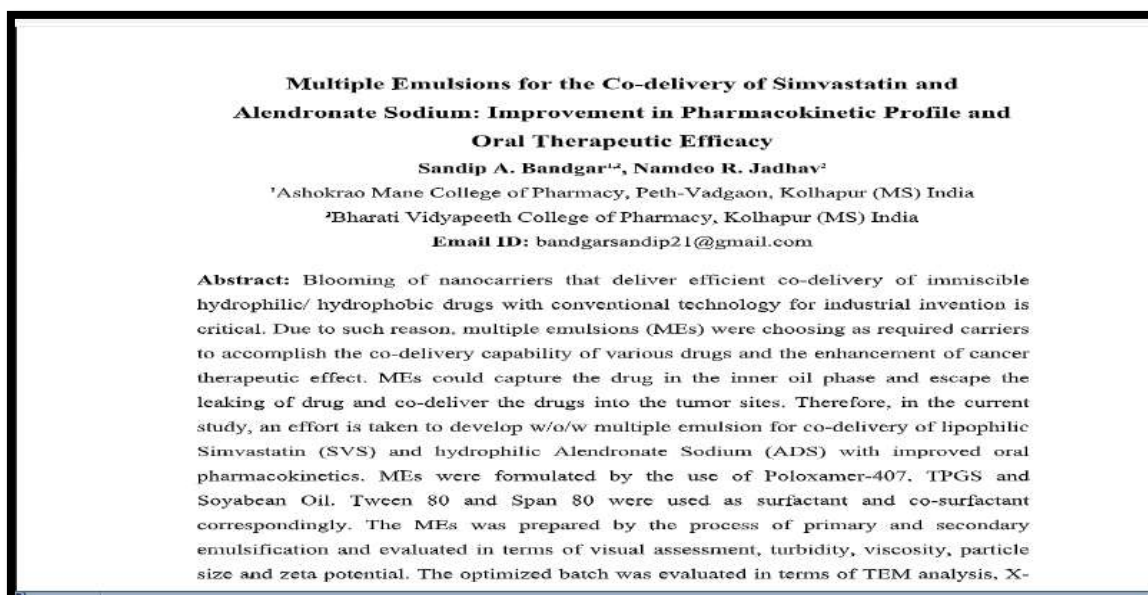
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GEETHANJALI COLLEGE OF PHARMACY

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Merit Certificate

This is to certify that Ms. Poornima Sachin Sankpal has won Third Prize in e-POSTER EXHIBITS, entitled "Colon Available Bioactive Compounds Exhibit Anticancer Effect On In-vitro Models of Colorectal Cancer" from Ashokrao mane college of Pharmacy peth vadgaon, kolhapur in DRAVYAKA 2020 the 11th National Level Virtual Conference during 11th &12th December 2020 on "Global Burden of the Disease & Pharmacist's Role" which is Organized by Teja Educational society sponsoring Geethanjali College of Pharmacy, in association with APTI Telangana state Branch



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Prof. Dr. M.RAVI KUMAR
Principal, IIC President
Geethanjali College of Pharmacy

PRINCIPAL
Ashokrao Mane College of Pharmacy
Peth-Vadgaon, Dist. Kolhapur

COLON AVAILIABLE BIOACTIVE COMPOUNDS EXHIBIT ANTICANCER EFFECT ON IN VITRO MODEL OF COLORECTAL CANCER

The aim of the present study was to evaluate the antitumor potential of gallic acid and quercetin nanoparticles isolated from amla and pomegranate *in- vivo* anticancer models. Preliminary screening of *In-vitro* study polyherbal nanoparticles was done in HCT 116 cell line. *In vivo* activity was assessed by DMH induced colon cancer model in rats. Results showed that DMH induced 100% ACF and polyps which were significantly reduced in the polyherbal nanoparticles treated group. The histopathological images of the polyherbal nanoparticles treated colon showed no signs of mucosal crypt abscess.

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RAKCOPS International e-Conference on Drug Development 2021

Certificate of Appreciation

This Is To Certify That

MS. SHUBHANGI V. SUTAR

Has Presented Professional e-Poster at RAKCOPS-ICDD 2021 e-Conference, May 23-24, 2021

Title: Simultaneous determination of melatonin impurities by an HPLC method coupled with diode array detection

Authors: Subhangi V. Sutar, Veerendra C. Yeligar, Sachinkumar V. Patil

Dr. Bhoomendra Bhongade
 Chief Coordinator

Dr. Padma GM Rao
 Dean, RAKCOPS

Dr. S. Gurumadhva Rao
 President, RAKMHSU

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RAKCOPS-ICDD-PC131-P21

PRINCIPAL
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 Peth-Vadgaon, Dist. Kolhapur.

Abstract Code:
PC 131

SIMULTANEOUS DETERMINATION OF MELATONIN IMPURITIES BY AN HPLC METHOD COUPLED WITH DIODE ARRAY DETECTION

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INTRODUCTION

Fig. 1 A) Structure of Melatonin B) Structure of Impurity-I, 2-(5-methoxy-1H-indol-3-yl) ethanamine C) Structure of Impurity-II, 3-(2-Aminoethyl)-1H-indol-5-ol) Melatonin, N-acetyl-5-methoxy tryptamine (MT), is a neurohormone produced mainly at night by the pineal gland, subsequently decreasing to minimum during the day. It helps to treat sleep disorders with diminishing latency of sleep inception, effective as free radicals remover and seeing that endogenous antioxidant Melatonin has been use with magnificent therapeutic results in Alzheimer treatment, intended for the neurotoxicity induced by glutamate and throughout jet lag treatment. Now days there are a range of methods for determining melatonin, its pharmaceutical dosage form such like HPLC method, spectrophotometric method and thin layer chromatography scanning method and so on^[1-11]. Despite the existence of these methods, till date none of methods for performing identification and simultaneous estimation of melatonin and its two impurities and has been reported. Hence, on the basis of literature survey the main intention of the work was to establish a precise, accurate, simple, reliable, sensitive, validated method for melatonin in the presence of its impurities (Impurity-I, 2-(5-methoxy-1H-indol-3-yl) ethanamine) (Fig. No.1B), (Impurity-II, 3-(2-Aminoethyl)-1H-indol-5-ol) (Fig. No.1C) estimation of the purity of the bulk drug furthermore the stability of its dosage forms. The method was validated in accordance with ICH guidelines.

OBJECTIVES In the present research work RP-HPLC method coupled with diode array detection for separation and quantitation of Impurity-I (2-(5-methoxy-1H-indol-3-yl) ethanamine), Impurity-II (3-(2-Aminoethyl)-1H-indol-5-ol) along with melatonin was developed.

MATERIAL & METHODS (AERIAL 44)

Standard Solution	50µg/ml for Melatonin, 36 µg/ml for Imp-I, 50µg/ml for Imp-II
Stationary Phase	Phenomenex Kinetex®-C18(150mm x4.6 mm 5µ)
Mobile phase	75% 10mMol/L Sodium dihydrogen phosphate:25% Acetonitrile
Diluent	Water, Acetonitrile (75:25)
Detection Wavelength	222nm
Flow Rate	1ml/min
Injection Volume	10µl
Column Oven Temperature	30°C

Selection of wavelength by UV spectrophotometry: The first UV absorption maxima of melatonin, was at approximately 222 nm, so detection at 222 nm was selected for HPLC method-development.

Experimental design for method understanding and optimization by method variables: For selection of mobile phase, various mobile phase compositions containing Acetonitrile: Water in different ratios (Table II) was tried but the resolution was not found to be satisfactory. Finally, mobile phase containing 10 mMol/L Sodium dihydrogen phosphate: Acetonitrile (75:25 v/v) was found to give good resolution, effectively separating melatonin and its impurities.

RESULTS & DISCUSSION

Parameters	Melatonin	Impurity-I	Impurity-II
Retention time	4.27 min	1.66	1.33
Plate count	8000	2970	3538
Symmetry factor	0.98	1.21	1.04

Fig.2 Chromatogram of Melatonin with Impurity-I, Impurity-II

Accuracy was determined by performing recovery studies by making different aliquots of different concentrations of pure drug at three levels i.e. 75%, 100% and 126%. Calibration curve for melatonin was found to be linear in the concentration range 2.5 to 7.5 µg/ ml. Calibration curve for Impurity-I was found to be linear in concentration range 2.5 to 7.5 µg/ ml and the calibration curve for Impurity-II was found to be linear in concentration range of 1.8 µg/ ml to 6.4µg/ml. The percentage recovery ated of melatonin, Impurity-I, Impurity-II was found to be within 98.20 to 99.91, 97.42 to 104.04, 98.35 to 100.06 respectively with R.S.D.

CONCLUSION

A high-performance liquid chromatography method with diode array detection was developed and fully validated for the determination of melatonin with its impurities. The method shows a good performance with respect to linearity, accuracy, precision, specificity and robustness and offers a simple and precise way for the determination of analyte in pharmaceutical preparations.

REFERENCES

Agarwal S.P., Gonsalves H.J. and Khar R.K.: HPTLC Method for the Analysis of Melatonin in Bulk and Pharmaceutical Formulations, *Asian J.Chem.*2008, 20(4) 2531-2538.

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Structure Elucidation of Oxidative Stress Degradation Product of Drospirenone

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Abstract

Stress degradation study of Drospirenone in H2O2 and characterization of degradation by IR, NMR, LC-MS was done to evaluate the stability of Drospirenone under stress conditions, as well as subjected to oxidative degradation according to ICH guideline Q1A (R2). The analysis was carried out on C18 Thermo Hypersil BDS (250x4.6) mm column, using ammonium acetate, acetonitrile (70:30) pH 6.8 as mobile phase with flow rate 1ml/min and method was done using PDA detector at ambient temperature where 5 Drospirenone was found to be satisfactory over the concentration range of 10 to 100 µg/ml of drug. The correlation coefficient was 0.997. Drospirenone was found to degrade to 1% H2O2 in an extent of 10% after 18h under stress conditions. In the applied conditions new structural data finding demonstrated that the oxidative stress degradation of Drospirenone was found to degrade as per the ICH Q1A (R2) as per 10% after 18h. The major degradation product observed by using the HPLC at 210°C, 210°C, HPLC-MS data demonstrated that the oxidative stress impurity of Drospirenone (Hydroxyl moiety) is expected. The method was effectively applied in the determination of Drospirenone with accuracy precision in Quality control laboratories.

Keywords: Drospirenone, stress conditions, Oxidative degradation, LC-MS.

Result & Discussion

1. Method Validation

Concentration (µg/ml)	Peak Area	Peak Time (min)
10	12345	12.34
20	24689	12.34
30	37012	12.34
40	49135	12.34
50	61258	12.34
60	73381	12.34
70	85504	12.34
80	97627	12.34
90	109750	12.34
100	121873	12.34

2. Precision & Accuracy

Concentration (µg/ml)	Accuracy (%)	Precision (%)
10	99.8	0.5
20	99.7	0.6
30	99.6	0.7
40	99.5	0.8
50	99.4	0.9
60	99.3	1.0
70	99.2	1.1
80	99.1	1.2
90	99.0	1.3
100	98.9	1.4

3. Recovery study

Concentration (µg/ml)	Recovery (%)
10	99.8
20	99.7
30	99.6
40	99.5
50	99.4
60	99.3
70	99.2
80	99.1
90	99.0
100	98.9

II. Forced Degradation Study

III. Structure Elucidation of Oxidative Stress Degradation Product of Drospirenone

The structure elucidation of the oxidative stress degradation product of Drospirenone was carried out using IR, NMR, and LC-MS. The major degradation product was identified as the hydroxyl moiety of Drospirenone, which is expected under oxidative stress conditions.

Experimental Work

1. Reagents and Chemicals
2. Selection and optimization of chromatographic conditions
3. Optimization and Preparation of mobile phase
4. Robustness
5. Stress Degradation of Drospirenone
6. Preparation of Marked sample drug solution
7. Method of Validation
8. System suitability parameters
9. Linearity
10. Recovery
11. Precision & Accuracy
12. Recovery study
13. Forced Degradation Study
14. Structure Elucidation of Oxidative Stress Degradation Product of Drospirenone

Conclusion

The IR, NMR, HPLC, LC-MS method has been used to develop to monitor Oxidative degradation product of Drospirenone. Drospirenone was found to degrade to 1% H2O2 in an extent of 10% after 18h under stress conditions. The major degradation product observed by using the HPLC at 210°C, 210°C, HPLC-MS data demonstrated that the oxidative stress impurity of Drospirenone (Hydroxyl moiety) is expected.

References

1. ICH Q1A (R2) Stability Testing of New Drug Substances and Biotechnological Products.
2. ICH Q1B Photostability Testing of New Drug Substances and Biotechnological Products.
3. ICH Q1C Oxidative Stability Testing of New Drug Substances and Biotechnological Products.
4. ICH Q1D Thermal Stability Testing of New Drug Substances and Biotechnological Products.
5. ICH Q1E Light Stability Testing of New Drug Substances and Biotechnological Products.

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Degradation Kinetic study of Melatonin in Alkaline and Acidic Medium by Validated Stability Indicating HPTLC Method

Shubhangi V. Sutar^{*1}, Veerendra C. Yeligar², Shitalkumar S. Patil¹

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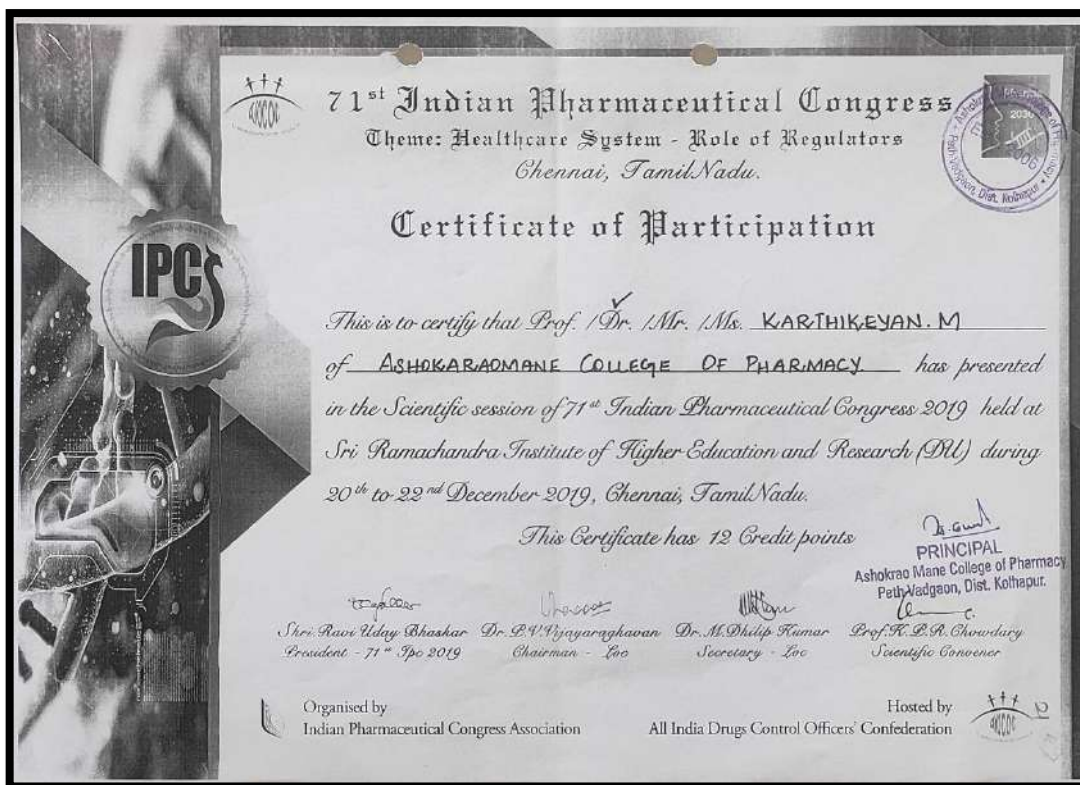
Phone No.07276114156

ABSTRACT

Background: Chemical stability of pharmaceutical molecules is a matter of great concern as it affects the safety and efficacy of the drug product. Some degradation products and impurities may even have a toxic effect. Therefore, it is very important to develop proper stability indicating method for Melatonin which possibly be used for stability testing and routine analysis.

Method: A rapid, sensitive with stability indicating HPTLC method be developed and validated to study degradation kinetics of Melatonin (MT) in alkaline, acidic and oxidative conditions. All degraded samples be chromatographed on Silica gel 60F 254 plates, developed using solvent system toluene: methanol: formic acid (7:3:0.1) and scanned at

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HETCAM Study for Evaluating Irritation Potential of Cosmetics

INTRODUCTION

- India is the first country in South Asia to ban the testing of cosmetics and its ingredients on animals.
- The use of modern non-animal alternative tests also become mandatory replacing invasive tests on animals.
- More than 1,100 companies around the world have banned all animal tests in favour of effective, modern non-animal tests. So it is necessary to develop alternative method for the evaluation of cosmetics.
- One alternative method is Hen's Egg Test - Chorionic Allantoic Membrane (HET-CAM) test.

Objective: To study the irritancy potential of various cosmetics using hen's egg test chorionic allantoic membrane.

PURPOSE OF STUDY

To describe the components and procedure used to evaluate the potential of a test substance to produce ocular irritation by measuring its ability to induce observable toxic changes in the chorionic allantoic membrane of a fertilized Hen's egg. Effects were measured by the onset of:

- Hemorrhage
- Congestion
- Blood Vessel Lysis

METHOD

- Fresh Fertile Egg
- Incubation for 1 day at 38-40°C & 5-10 RH
- Invert egg and incubate for 1 day
- Discard non-viable / defective egg
- Clit air cell without damaging outer membrane
- Prepare groups as negative control, control and test treatment
- Observe for 5 minutes

EVALUATION OF TEST RESULTS

Scoring scheme for irritation testing

Table No. 1 Scoring scheme for irritation testing

Effect	Score		
	0.5 min	2 min	5 min
Lysis	5	3	1
Hemorrhage	7	5	3
Congestion	9	7	5

RESULTS

Score Obtained in HET-CAM Test

A. Normal Saline as Control

Formulation	Score (Time In Min)		
	0.5	2	5
Egg 1	0	0	0
Egg 2	0	0	0
Egg 3	0	0	0
Egg 4	0	0	0
Egg 5	0	0	0
Egg 6	0	0	0
Mean	0	0	0

Saline at 0.5 min Saline at 2 min Saline at 5 min

B. 1% SDS and NaOH as Negative Control

Formulation	Score (Time In Min)		
	0.5	2	5
Egg 1	5	5	5
Egg 2	7	5	5
Egg 3	7	5	5
Egg 4	9	5	5
Egg 5	5	5	5
Egg 6	5	5	5
Mean	6.33	5	5

Negative control at 0.5 min (Lysis) Negative control at 2 min (Hemorrhage) Negative control at 5 min (Congestion)

C. Test treatment Group (V-wash)

Formulation	Score (Time In Min)		
	0.5	2	5
Egg 1	0	0	0
Egg 2	0	0	0
Egg 3	0	0	0
Egg 4	0	0	0
Egg 5	0	0	0
Egg 6	0	0	0
Mean	0	0	0

V Wash at 0.5 min V Wash at 2 min V Wash at 5 min

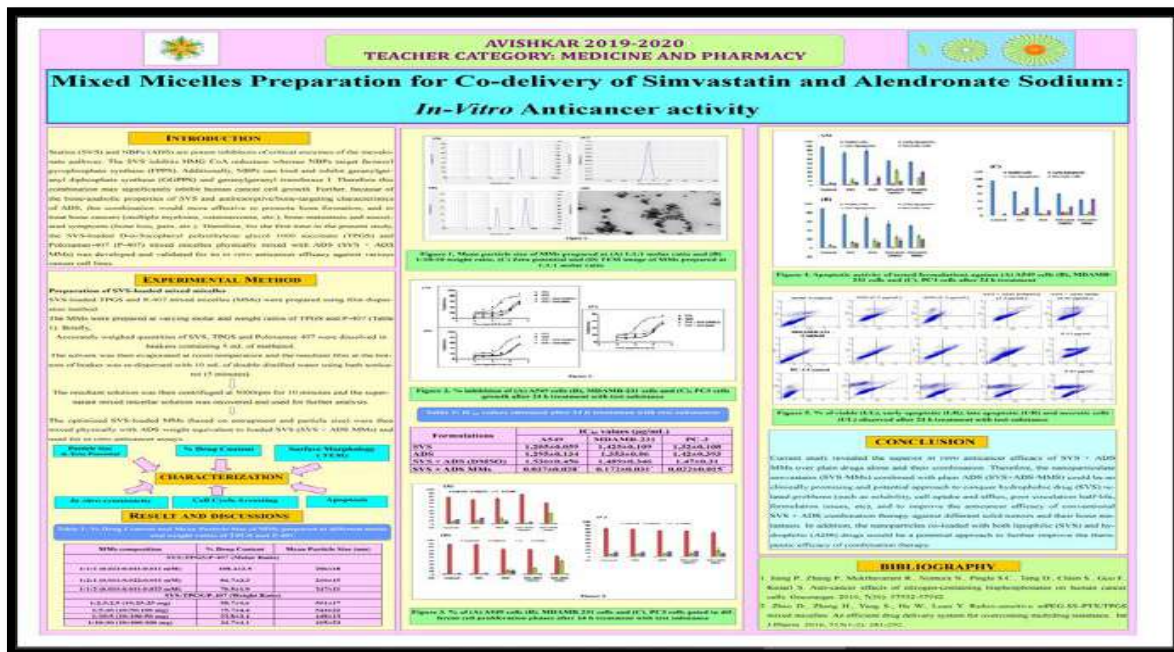
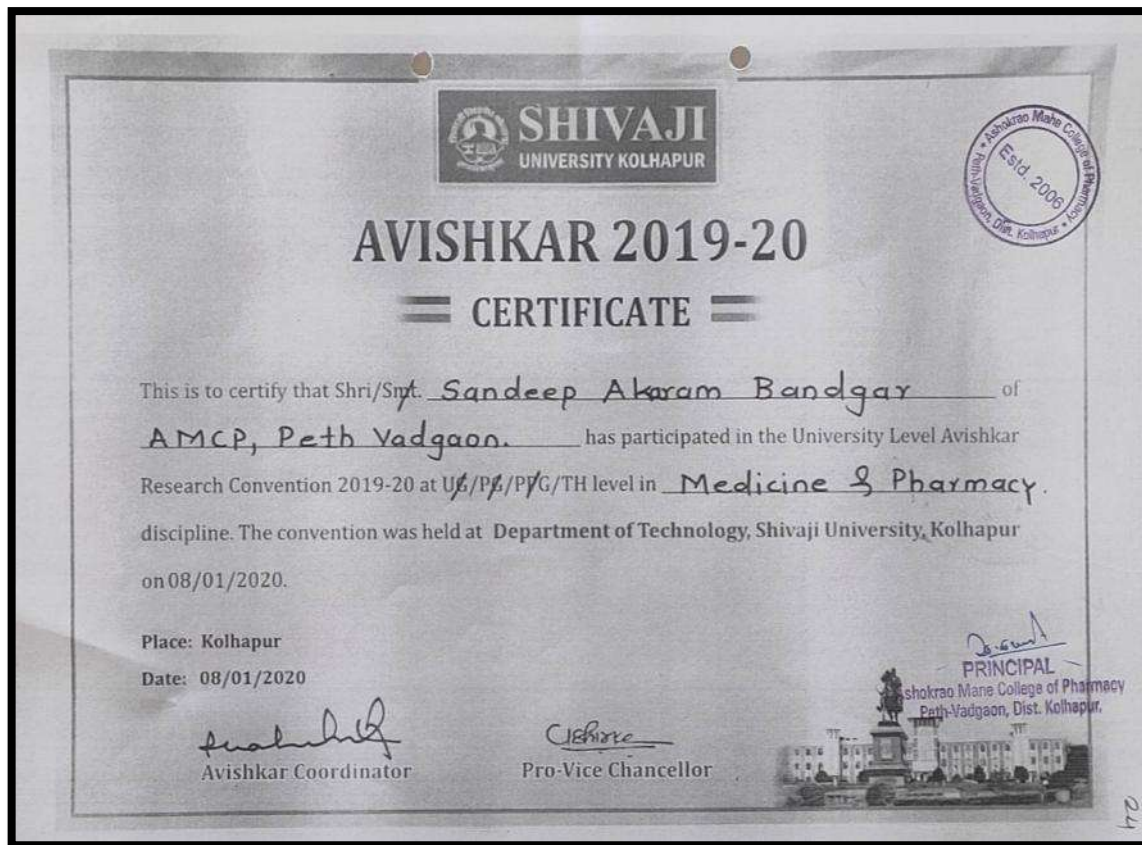
SUMMARY & CONCLUSION

- The tested cosmetics was found to be non irritant when compared to negative control.
- HET-CAM test is a reliable and practical way to control the eye irritation potential of cosmetics.
- The HET-CAM is a rapid, sensitive and inexpensive toxicity test which provides information relevant to embryotoxicity, teratogenicity, systemic and immunopathological effects and metabolic pathways and, in the form of the HET-CAM test, to the membrane irritation potentials of cosmetics.
- The present form of the HET-CAM test can be proposed as a pre-screening method for the determination of eye irritation potential for the cosmetics, therefore the experimental animals can be replaced by this test.

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Structure Elucidation of Oxidative Stress Degradation Product of Drospirone

Result & Discussion

1. Method Validation

1.1 Accuracy study

Concentration (µg/ml)	Observed (µg/ml)	% Recovery
10	9.8	98%
20	19.6	98%
30	29.4	98%
40	39.2	98%
50	49.0	98%

2. Precision & Accuracy

Concentration (µg/ml)	Observed (µg/ml)	% Recovery
10	9.8	98%
20	19.6	98%
30	29.4	98%
40	39.2	98%
50	49.0	98%

3. Recovery study

Concentration (µg/ml)	Observed (µg/ml)	% Recovery
10	9.8	98%
20	19.6	98%
30	29.4	98%
40	39.2	98%
50	49.0	98%

4. Forced Degradation Study

Abstract

To assess the stability of Drospirone under stress conditions, it was subjected to acidic, oxidative, reductive, thermal and light degradation according to ICH guideline Q1A (R2). The analysis was carried out on C₁₈ Reverse Phase HPLC column with 0.1% sodium acetate mobile phase and acetonitrile as eluent. The mobile phase with flow rate 1.0 ml/min and analysis was performed using PDA detector with wavelength 254 nm. The results showed that Drospirone was stable under the concentration range of 10 to 50 µg/ml of Drospirone. The correlation coefficient was 0.999. Drospirone was found to be more sensitive to acidic hydrolytic and oxidative stress in acidic degradation. The presence of degradation products were analyzed from the degradation study with significant variation in their retention time values. FTIR, NMR, LC-MS data demonstrated the degradation product structure of Drospirone. The results of the study are reported. The methods are effectively applied to the degradation of Drospirone with degradation products to quality control laboratory.

Keywords: Drospirone, degradation, stress conditions.

Introduction

Chemically Drospirone is 18, 19, 20, 21, 22-tetrahydro-20H-spiro[5.5]undec-2-one. It is a synthetic progestin that is used in combination with an estrogen in the form of both oral contraceptives. Drospirone is different from other synthetic progestins as its pharmacological action is progestin and androgenic activities. It is to be clear to the general population. As such, Drospirone is not androgenic. It is a synthetic progestin with a unique structural activity of the steroid nucleus. Drospirone is a synthetic progestin and is not androgenic. It is primarily to provide the progestin and the drug substance on the drug product. Drospirone is a synthetic progestin and is not androgenic. It is primarily to provide the progestin and the drug substance on the drug product. Drospirone is a synthetic progestin and is not androgenic. It is primarily to provide the progestin and the drug substance on the drug product.

Experimental Work

1. Reagents and Chemicals
2. Preparation of standard drug solutions
3. Selection and optimization of chromatographic conditions
4. Optimization and Preparation of mobile phase
5. Selection of internal standard
6. Preparation of standard drug solutions
7. Preparation of standard drug solutions
8. Method of Validation
9. System suitability parameters
10. Accuracy
11. Precision
12. Robustness
13. Stress Degradation of Drospirone

Conclusions

Drospirone, under stress conditions, was found to be stable under the concentration range of 10 to 50 µg/ml of Drospirone. The correlation coefficient was 0.999. Drospirone was found to be more sensitive to acidic hydrolytic and oxidative stress in acidic degradation. The presence of degradation products were analyzed from the degradation study with significant variation in their retention time values. FTIR, NMR, LC-MS data demonstrated the degradation product structure of Drospirone. The results of the study are reported. The methods are effectively applied to the degradation of Drospirone with degradation products to quality control laboratory.

References

1. ICH Q1A (R2) Stability Testing of New Drug Substances and Products
2. ICH Q1B Photostability Testing of New Drug Substances and Products
3. ICH Q1C Photostability Testing of New Drug Substances and Products
4. ICH Q1D Thermal Stability Testing of New Drug Substances and Products
5. ICH Q1E Light Exposure Testing of New Drug Substances and Products

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AVISHKAR 2019-2020
TEACHER CATEGORY: MEDICINE AND PHARMACY

Mixed Micelles Preparation for Co-delivery of Simvastatin and Alendronate Sodium: In-Vitro Anticancer activity

INTRODUCTION

Nanoparticles (NPs) and micelles (MNs) are proven inhibitors of various enzymes of the metabolic pathway. The SVN loaded MNs (SVN-MNs) enhance the MNs target delivery to phospholipase system (PLPS). Additionally, SVNs can bind and inhibit geranylgeranyl acylphosphate synthase (GGPPS) and geranylgeranyl transferase I. Therefore this combination may significantly inhibit human cancer cell growth. Further because of the biocompatible properties of SVN and anticancer/bio-targeting characteristics of MNs, this combination would more effective to promote tumor destruction and to reduce tumor severity (Kishorraj et al., 2018). Therefore, in the first step in the present study, the SVN-loaded biodegradable polymeric micelles (MN) composed of PLGA and PLGA-PVP (P-PLGA) mixed micelles physically mixed with SVN (SVN + MNs MNs) was developed and evaluated for its in vitro anticancer activity against various cancer cell lines.

EXPERIMENTAL METHOD

Preparation of SVN-loaded mixed micelles

SVN loaded PLGA and P-PLGA mixed micelles (MNs) were prepared using the stepwise method. The MNs were prepared by varying molar and weight ratios of PLGA and P-PLGA (1:1, 1:2, 1:3).

Accurately weighed quantities of SVN, PLGA and P-PLGA were dissolved in heptane containing 0.1 ml of methanol.

The mixture was then evaporated at room temperature and the residue film at the bottom of beaker was re-dispersed into 10 ml of deionized distilled water using both vortex and 15 min shaking.

The resultant solution was then centrifuged at 5000rpm for 10 minutes and the supernatant mixed micellar solution was removed and used for further analysis.

The optimized SVN-loaded MNs (based on entrapment and particle size) were then tested physically with AD50 weight equivalent to loaded SVN (SVN + AD50 MNs) and used for in vitro anticancer activity.

CHARACTERIZATION

All in vitro characterizations were performed using UV-Vis Spectrophotometry, FTIR, DSC, TGA, and Zeta Potential.

RESULTS AND DISCUSSION

Table 1. In Vitro Anticancer Activity of SVN-MNs against various cancer cell lines.

MNs composition	% Drug Content	Mean Particle Size (nm)
PLGA (100:0:0:0:0:0:0:0)	100.00 ± 0.00	200.00 ± 0.00
PLGA (90:10:0:0:0:0:0:0)	90.00 ± 0.00	200.00 ± 0.00
PLGA (80:20:0:0:0:0:0:0)	80.00 ± 0.00	200.00 ± 0.00
PLGA (70:30:0:0:0:0:0:0)	70.00 ± 0.00	200.00 ± 0.00
PLGA (60:40:0:0:0:0:0:0)	60.00 ± 0.00	200.00 ± 0.00
PLGA (50:50:0:0:0:0:0:0)	50.00 ± 0.00	200.00 ± 0.00
PLGA (40:60:0:0:0:0:0:0)	40.00 ± 0.00	200.00 ± 0.00
PLGA (30:70:0:0:0:0:0:0)	30.00 ± 0.00	200.00 ± 0.00
PLGA (20:80:0:0:0:0:0:0)	20.00 ± 0.00	200.00 ± 0.00
PLGA (10:90:0:0:0:0:0:0)	10.00 ± 0.00	200.00 ± 0.00

Figure 1. Mean particle size of SVN-MNs prepared by PLGA (1:1) molar ratio and 10% drug content ratio. In vitro anticancer activity of SVN-MNs prepared at PLGA 1:1 molar ratio.

Figure 2. In vitro anticancer activity of SVN-MNs (1:1) molar ratio and 10% drug content ratio against various cancer cell lines.

Table 1. In vitro anticancer activity of SVN-MNs (1:1) molar ratio and 10% drug content ratio against various cancer cell lines.

Formulations	IC50 (µg/ml)	IC90 (µg/ml)	IC95 (µg/ml)
SVN	0.200 ± 0.000	0.420 ± 0.000	0.520 ± 0.000
MNs	0.250 ± 0.000	0.480 ± 0.000	0.580 ± 0.000
SVN + AD50 MNs	0.200 ± 0.000	0.420 ± 0.000	0.520 ± 0.000
SVN + AD50 MNs	0.200 ± 0.000	0.420 ± 0.000	0.520 ± 0.000

Figure 3. In vitro anticancer activity of SVN-MNs (1:1) molar ratio and 10% drug content ratio against various cancer cell lines.

Figure 4. Synthesis scheme of mixed micelles (MNs) prepared by PLGA (1:1) molar ratio and 10% drug content ratio.

Figure 5. In vitro anticancer activity of SVN-MNs (1:1) molar ratio and 10% drug content ratio against various cancer cell lines.

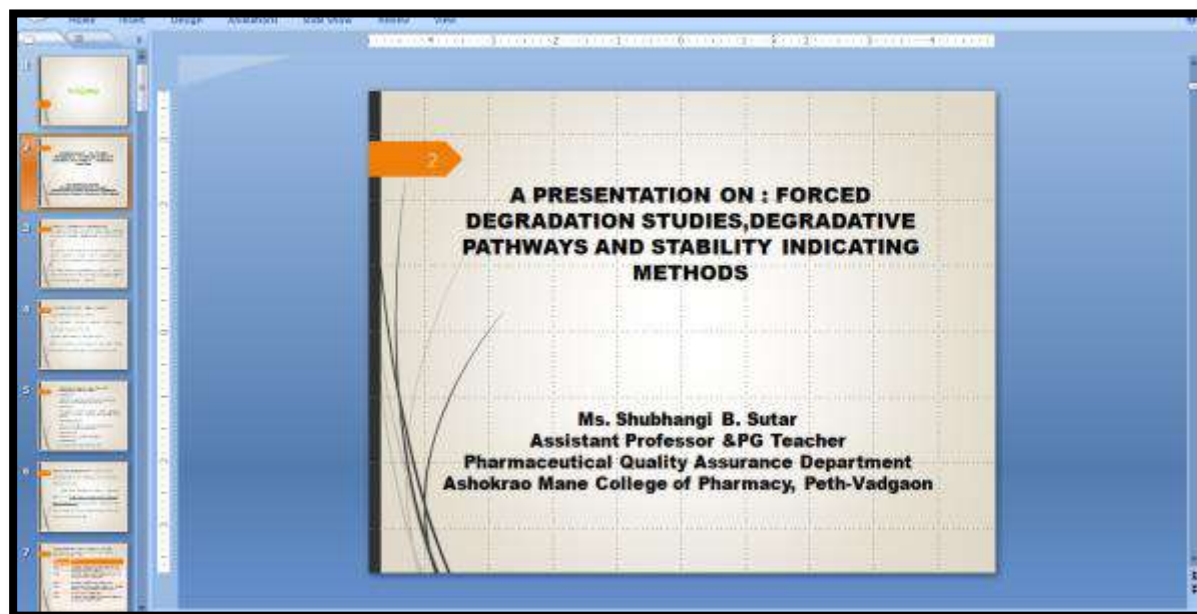
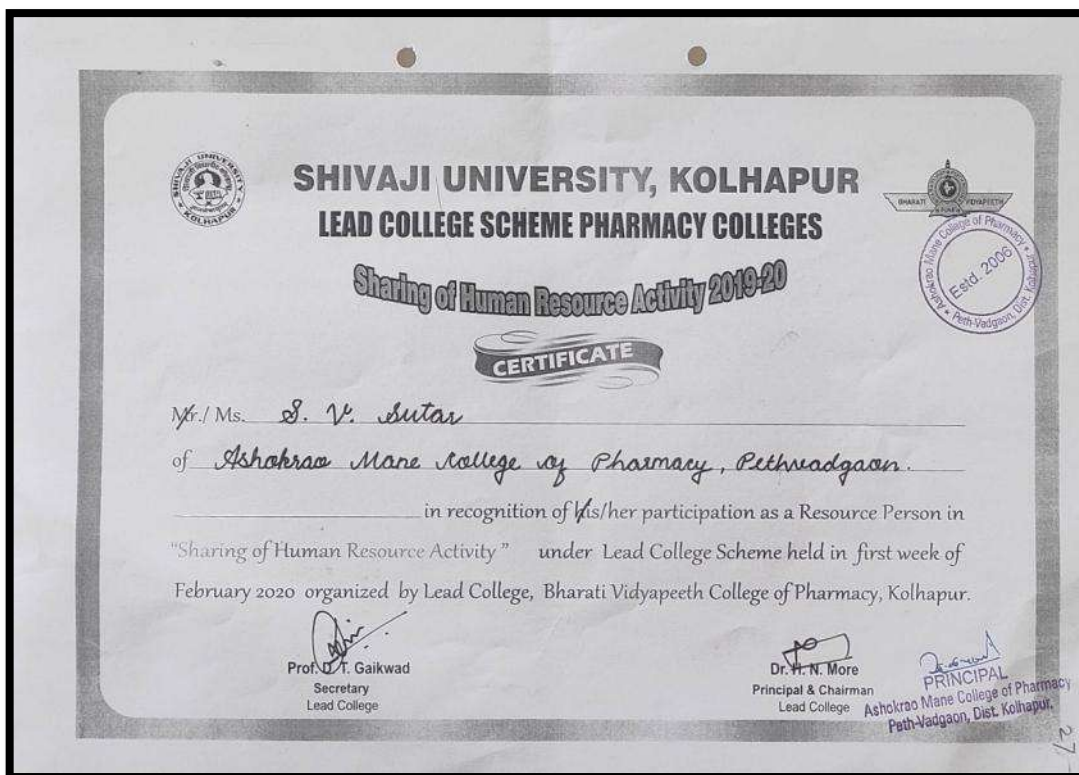
CONCLUSION

Current study revealed the superior in vitro anticancer activity of SVN + AD50 MNs over plain drug alone and their combination. Therefore, the nanoparticles composed of SVN + AD50 MNs combined with plain AD50 (SVN + AD50 MNs) would be an idealized promising and potential approach to enhance hydrophilic drug (SVN) in tumor problems such as solubility, stability and efficacy, poor circulation half-life, degradation issues, etc. and to improve the anticancer efficacy of conventional SVN + AD50 combination therapy against different solid tumors and their local metastasis. In addition, the nanoparticles loaded with both hydrophilic (SVN) and hydrophobic (AD50) drugs would be a potential approach to further improve the therapeutic efficacy of combination therapy.

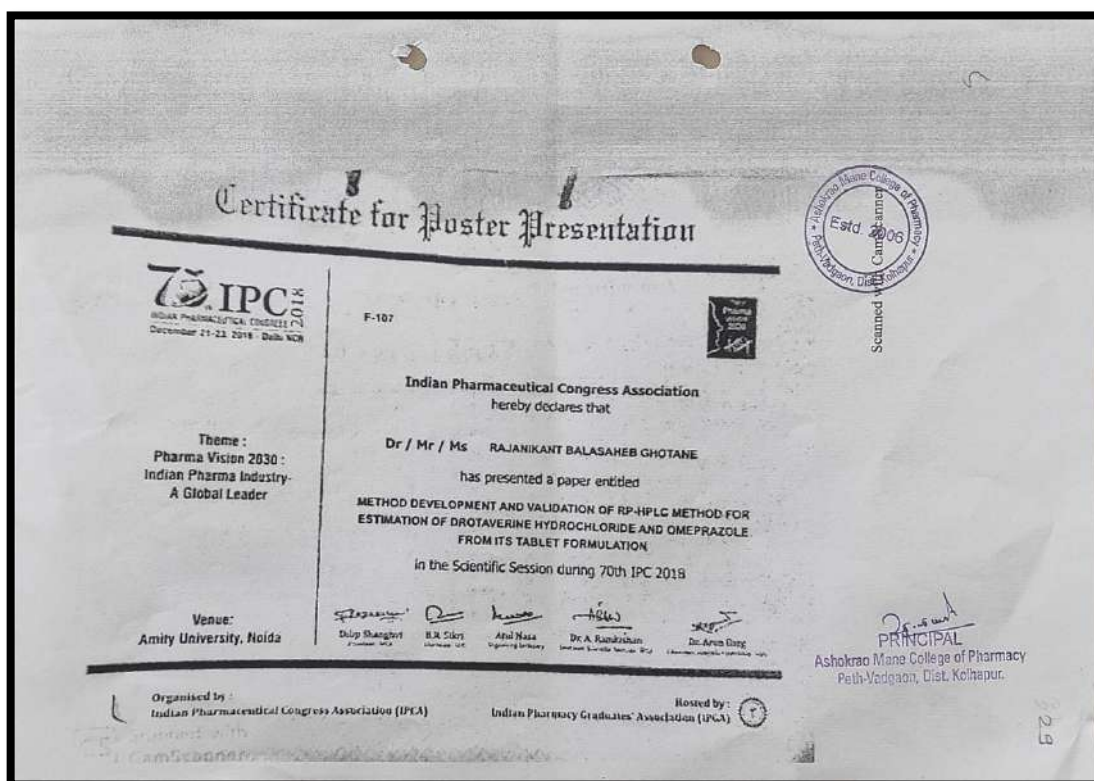
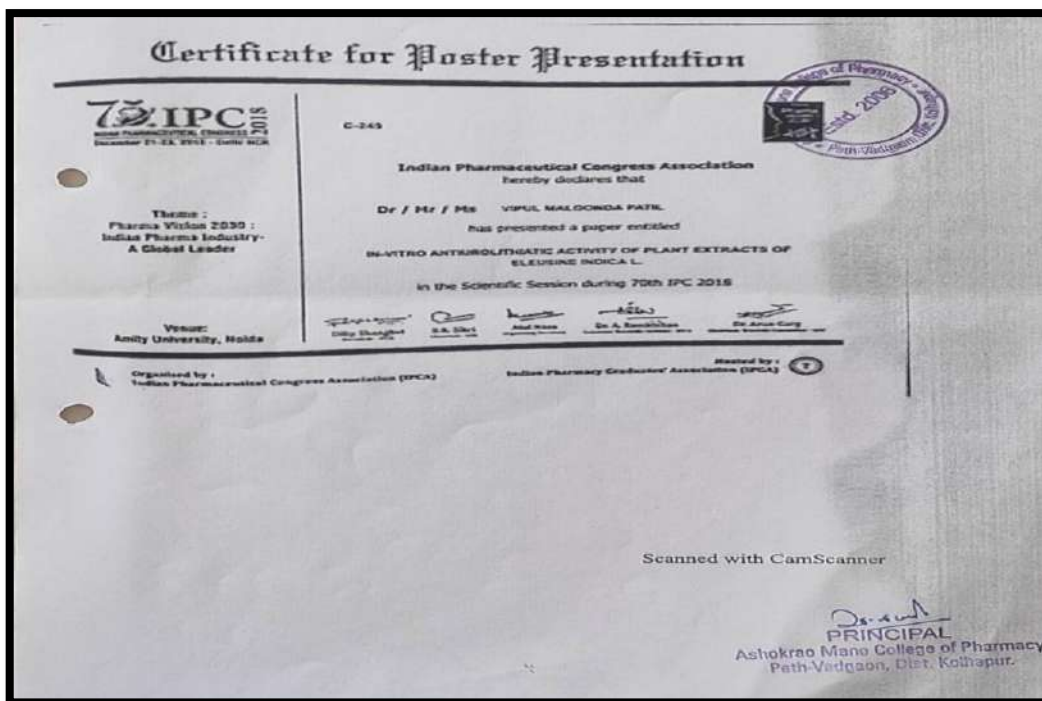
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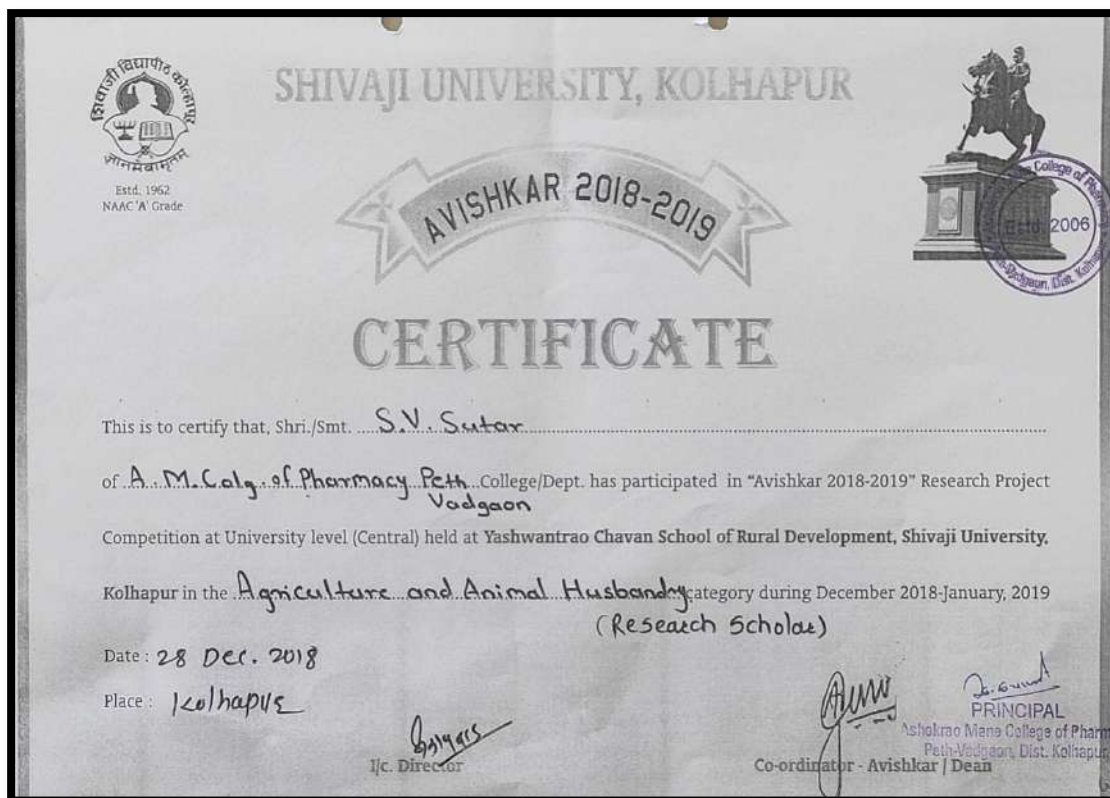
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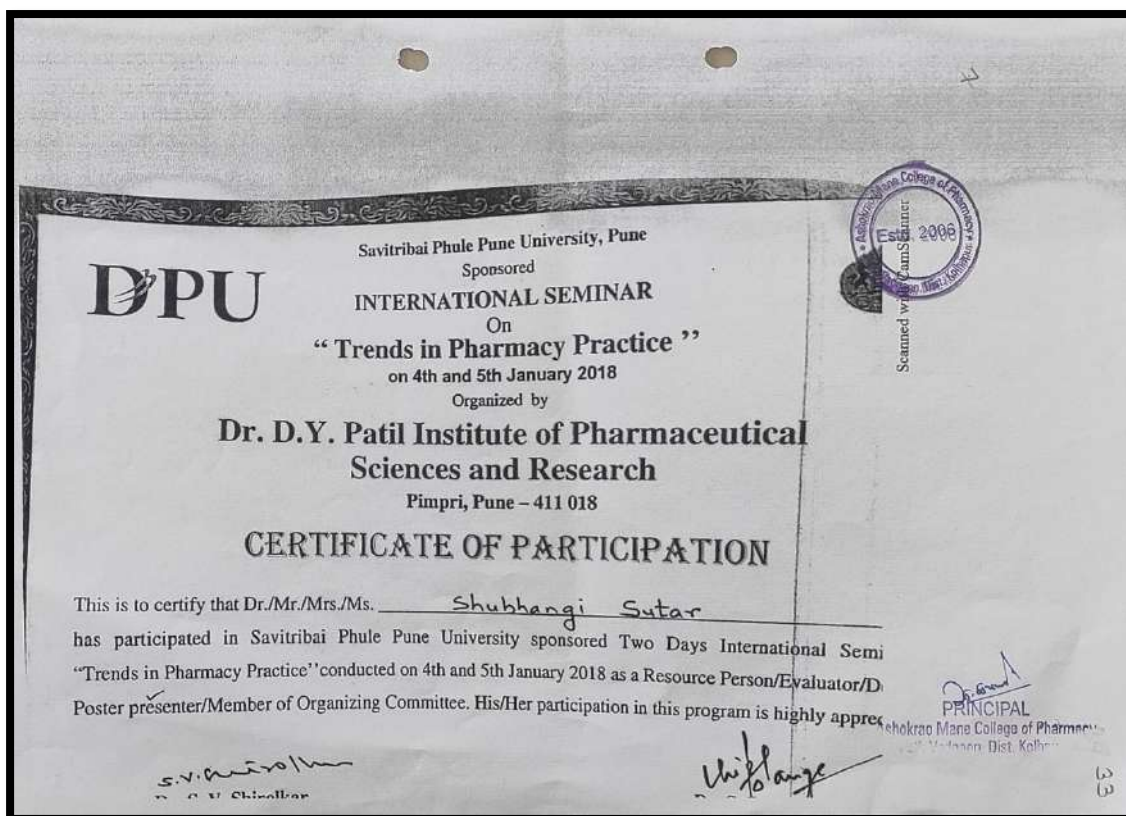
Level-Research Scholar
Category-Science and Technology
Center-YashwantraoChavan School of Rural Development,Shivaji University,Kolhapur

“PHYTOCHEMICAL INVESTIGATION OF ELEUSINE SPECIES FOR ANTHELMINTIC AND ANTIOXIDANT ACTIVITIES

ABSTRACT

Antioxidants are one such substance, which have the capability to neutralize free radicals or their actions. Present study was undertaken to explore constituents from the extracts and anti-oxidant activity and anthelmintic activity of the plant Quisqualis indica. The present study deals with the extraction, isolation, molecular characterization of secondary metabolites and pharmacological evaluation. Characterization of isolated compounds was done by thin layer chromatography, GC-MS ,NMR,and FTIR. 2-Dodecenal, 2-Tridecenal, 2-Tridecenal Constituents has been isolated from Quisqualis Indica plant. The plant Quisqualis indica seems to be a promising candidate with respect to its Anti-Oxidant activity, present study was to evaluate the anthelmintic activity of ethanolic and aqueous extract of Quisqualis indiaLinn using Pheretima posthuma as test worms. The time of paralysis and time of death were studied and the activity was compared with Mebendazole as reference standard. The ethanol

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Poster No F-13

SPECTROPHOTOMETRIC AND RP-HPLC METHOD DEVELOPMENT AND VALIDATION FOR ESTIMATION OF MELATONIN

ABSTRACT

Two simple, precise and economical analytical methods such as UV spectrophotometric method and RP-HPLC methods were developed for the estimation of Melatonin in bulk and pharmaceutical dosage form. Method A – UV spectrophotometric method in which melatonin is used as reference and maximum absorbance was found to be at 277 nm. Method B – RP-HPLC method using phase using Method A. Wavenumber (1620.276) cm⁻¹ was found to be 9.891 and 8.991 respectively. The methods were validated and can be successfully applied to estimate Melatonin in pharmaceutical dosage form.

Keywords: Melatonin, UV spectroscopy, RP-HPLC, Method validation.

INTRODUCTION

Melatonin is a white amorphous powder having RPAC. Name N-(2,5-dimethyl-4-oxo-1H-imidazol-5-yl)ethanamine. It is a natural hormone that is secreted by the pineal gland in mammals and regulates the circadian rhythm. It is a natural hormone that is secreted by the pineal gland in mammals and regulates the circadian rhythm. It is a natural hormone that is secreted by the pineal gland in mammals and regulates the circadian rhythm.

METHODS

ANALYTICAL WAVELENGTH
Stock solution of drug was prepared in methanol and 1% aqueous of diluted solution of MBL was taken. It showed maximum absorbance at 277 nm.

VALIDATION
Linearity, accuracy, precision, specificity, robustness, stability and repeatability of drug in different solvents, various mobile phases used, the mobile phase composition of Melatonin. Wavenumber (1620.276) cm⁻¹ was selected for the RP-HPLC. Stock in pure drug and control peak with symmetry and significant retention time for both control and sample form of drug. The prepared mobile phase was diluted by ultra sonication for 15 minutes so as to avoid the disturbance caused due to dissolved gases. The prepared mobile phase was further filtered through 0.45 µm membrane filter to avoid the clogging of column due to smaller particles which may produce multiple phases.

DIAGRAMS & TABLES

Table 1: Analytical Wavelength

Wavelength (nm)	Absorbance
277	0.891
277	8.991

Table 2: Validation Parameters

Parameter	Value
Linearity	0.999
Accuracy	100.0%
Precision	0.5%

CONCLUSION

The validated UV spectrophotometric and RP-HPLC methods are simple, precise, and accurate and can be used for the determination of Melatonin in bulk and tablet formulation.

Presented at Dr. D. Y. Patil Institute of Pharmaceutical Sciences and Research, Pimpri, Pune during International Seminar on “Recent Trends in Pharmacy Practice”

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Poster No: F-14 **DEVELOPMENT OF UV- SPECTRO PHOTO METRIC METHOD FOR THE ANTICANCER DRUGS IN PURE AND DOSAGE FORM**

ABSTRACT

The present study describes a simple, accurate, precise and sensitive UV-Vis spectrophotometric method for the estimation of anticancer drugs, Cisplatin and Metformin in pure and dosage form. A rapid, simple, sensitive, and accurate UV-Vis spectrophotometric method has been developed and validated for the assay of the anticancer drug Cisplatin and Metformin in active pharmaceutical ingredients (API) and in its dosage form. The present work focuses on comparing the drug concentrations and used by simple UV spectrophotometric method based on the use of Metformin (2) in 0.1M HCl solution to which the drug absorbing maximum wavelength. The drug has an absorption maximum at 263 nm and 294 nm respectively for Cisplatin and Metformin in 0.1M HCl solution. The method was found to be linearly proportional to the concentration of Cisplatin and Metformin in the concentration range of 0.002 and 0.012 mg/ml respectively. The assay recovery ranged from 98.5% to 100.5% for Cisplatin and Metformin. The method is simple, accurate, precise and sensitive. The proposed methods were successfully applied to the determination of Cisplatin and Metformin in bulk as well as commercially available pharmaceutical dosage forms.

INTRODUCTION

Anti-Cancer drugs in the pharmaceutical dosage form are very much used to multiple diseases and are introduced in the market in Tablet and capsule dosage form. UV-Visible Spectrophotometry in the solid and liquid dosage form is the most common method for the analysis of drugs individually and in combination can be simple, highly specific and wide range of sensitivity make it ideal for the analysis of most drugs. Many of the anticancer drugs have already been analyzed and related by UV spectroscopy.

METHODS

1. Analytical method development for Cisplatin:
Working standard solution of Cisplatin of concentration 100 µg/ml was prepared & subjected to wavelength between 200 - 300 nm and the absorption maximum was observed at 263 nm. This wavelength was used for the quantification of pure and in dosage form of Cisplatin respectively.

2. Analytical method validation-Cisplatin:
The method was validated according to ICH Q2(R1) guidelines for validation of analytical procedures to assess Accuracy, Specificity, Precision, Linearity, Range of detection (LOD), Limit of quantification (LOQ), ruggedness and recovery by recovery study for the analysis.

3. Analytical method development for Metformin:
Working standard solution of Metformin in 0.1M HCl was prepared & subjected to wavelength between 200 - 300 nm and the absorption maximum was observed at 294 nm. This wavelength was used for the quantification of pure and in dosage form of Metformin respectively.

4. Analytical method validation-Metformin:
The method was validated according to ICH Q2(R1) guidelines for validation of analytical procedures to assess Accuracy, Specificity, Linearity, Precision, Range of detection (LOD), Limit of quantification (LOQ), ruggedness and recovery by the analysis.

DISCUSSION & CONCLUSION

UV-Visible spectrophotometric method was developed and validated for the estimation of anticancer drugs viz. Cisplatin and Metformin in bulk as well as in dosage form. The method was found to be linearly proportional to the concentration of Cisplatin and Metformin in the concentration range of 0.002 and 0.012 mg/ml respectively. The method is simple, accurate, precise and sensitive. The proposed methods were successfully applied to the determination of Cisplatin and Metformin in bulk as well as commercially available pharmaceutical dosage forms. In view of the above, the proposed methods will be more beneficial to an extent of accuracy, due to ease of availability of reagents.

Presented at Dr. D. Y. Patil Institute of Pharmaceutical Sciences and Research, Pimpri, Pune during International Seminar on "Recent Trends in Pharmacy Practice"

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AVISHKAR 2018-19

Level-Research Scholar

Category-Science and Technology

Center-Yashwantrao Chavan School of Rural Development, Shivaji University, Kolhapur

“PHYTOCHEMICAL INVESTIGATION OF ELEUSINE SPECIES FOR ANTHELMINTIC AND ANTIOXIDANT ACTIVITIES

ABSTRACT

Antioxidants are one such substance, which have the capability to neutralize free radicals or their actions. Present study was undertaken to explore constituents from the extracts and antioxidant activity and anthelmintic activity of the plant *Quisqualis indica*. The present study deals with the extraction, isolation, molecular characterization of secondary metabolites and pharmacological evaluation. Characterization of isolated compounds was done by thin layer chromatography, GC-MS, NMR, and FTIR. 2-Dodecenal, 2-Tridecenal, 2-Tridecenal Constituents has been isolated from *Quisqualis Indica* plant. The plant *Quisqualis indica* seems to be a promising candidate with respect to its Anti-Oxidant activity, present study was to evaluate the anthelmintic activity of ethanolic and aqueous extract of *Quisqualis indica* Linn using *Pheretima posthuma* as test worms. The time of paralysis and time of death were studied and the activity was compared with Mebendazole as reference standard. The ethanol

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AVISHKAR 2017-18
Level: RESEARCH SCHOLAR
Category: Medicine and Pharmacy
Centre: Nano Science and Technology Department, Shivaji University, Kolhapur
TOPIC NAME: ANTIUROLITHIATIC EFFECT OF CANNA INDICA L. (ROOTS)

INTRODUCTION

Urolithiasis is a process of forming stones in the kidney, bladder, and/or urethra (urinary tract). The development of the stones is related to decreased urine volume or increased excretion of stone-forming components such as calcium, oxalate, urate, cystine, xanthine, and phosphate. Stone formation is one of the painful urologic disorders that occur in approximately 12% of the global population and its re-occurrence rate in males is 70-81% and 47-60% in female. Plants generally produce many secondary metabolites which are biosynthetically derived from primary metabolites and constitute an important source of many pharmaceutical drugs. Renal stone is a common disease, occurring in 8% of the population. This disease is multifactorial and mainly considered related to environmental factors, especially western diet.

1. Calcium stones are encountered in 80% of cases and contain calcium oxalate (72%), phosphate oxalate (14.7%) and often a mixture of the two.
2. Among calcium oxalate crystals, calcium oxalate monohydrate crystalline form is oxalate dependent, whereas calcium oxalate dihydrate crystalline form is calcium dependent. Calcium deposits can be located within urinary cavities, in papilla and also in medullar

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Summary of books and chapters in edited volumes/books published with Web-link of books

Sr. No.	Name of the teacher	Title of the book/chapters published	Year of publication	ISBN/ISSN number of the proceeding	Name of the publisher with link
1	Mrs. Poonam Nilesh Chougule	Textbook of Pharmacognosy as per ER2020 PCI Syllabus.	2022	9789392159664	Pritam Publications https://www.pritampublications.com/view-products/89/Pharmacy/D-Pharm-1st-Year-Textbooks/A-Textbook-of-Pharmacognosy
2	Mr.Atul Kadam Ms.Prachi Khamkar	Introduction and Need for Additive Manufacturing in the Medical Industry. Additive Manufacturing with Medical Applications	2022	ISBN: 978-1-032-11077-6 (hbk) ISBN: 978-1-032-29325-7 (pbk) ISBN: 978-1-003-30106-6 (ebk)	CRC Press is an imprint of Taylor & Francis Group, LLC https://www.taylorfrancis.com/chapters/edit/10.1201/9781003301066-1/introduction-need-additive-manufacturing-medical-industry-prachi-khamkar-atul-kadam
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5	Mrs. Poonam Nilesh Chougule Ms. Aishwarya Prakash Bhosale	Book Chapter entitled, "Advanced trends in biotechnology" in IIP book series(IIP V2 2022 BS 17 05 Futuristic trends in Biotechnology), VOL 2 ,2022.	2022	ISBN:978-93-95632-88-1	IIP book series https://iiproceedings.org/editor-reviewer.php
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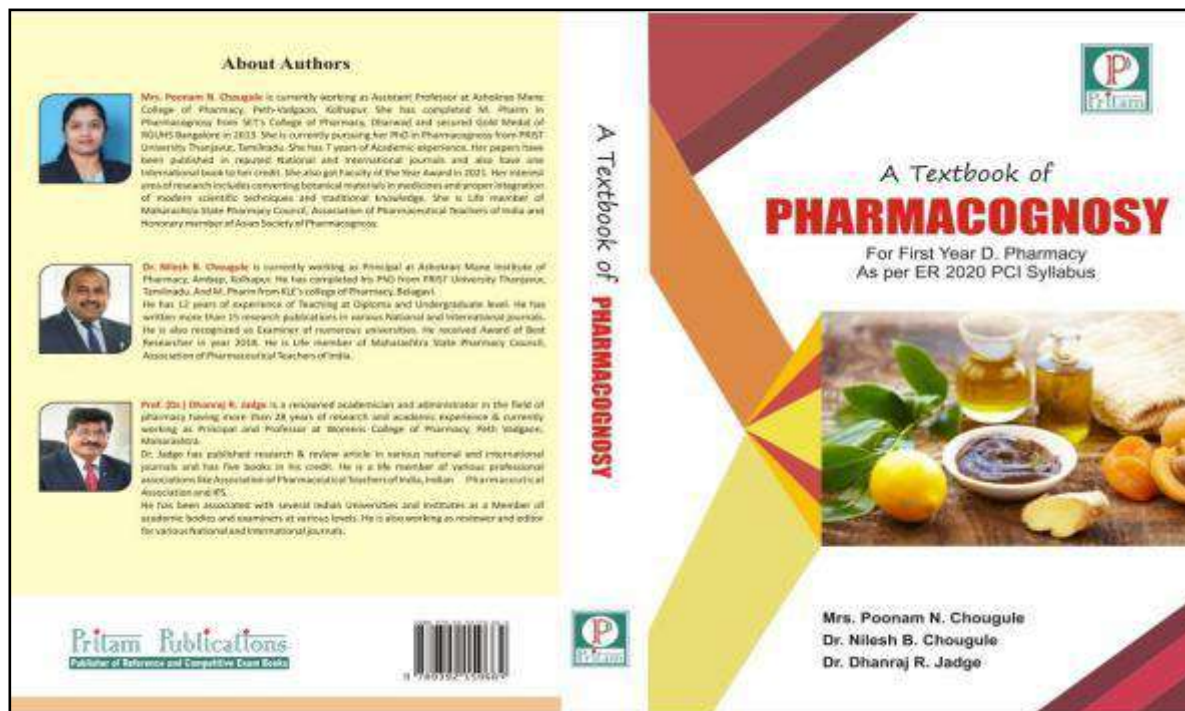


11	Mrs. Poonam Nilesh Chougule	Evaluation of endophytic fraction of Boerhavia diffusa L. root. For Hepato-protective activity in rats.	2021	9786204205403	LAP Lambert Publishers https://www.lap-publishing.com/catalogue/details/gb/978-620-4-20540-3/evaluation-of-endophytic-fractions-of-boerhaavia-diffusa-l-roots?search=Evaluation%20of%20endophytic%20fraction%20of%20Boerhavia%20diffusa%20L.%20root.%20For%20Hepato-protective%20activity%20in%20rats.
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Recently fast dissolving tablet attracted a great deal of attention. The fast dissolving tablet is useful for geriatric patients and suffering from tremors and spasticity. Geriatric patients often are unable to swallow, thereby patients suffering from motion sickness and dizziness and thereby challenge patients. Therefore patients the fast dissolving tablet used for the oral usage and also use in pregnant, lactation or disordered drug into water.






Ms. Nacyna R. Patil is currently working as Assistant Professor at Ashokrao Mane College of Pharmacy, Peth Vadgaon. She has 6 years academic experience. She has authored one book and 11 research and review articles in national and international journals. She has organized and participated in various workshops, conferences, FDP and STP.


FAST DISSOLVING TABLETS CONTAINING SOLID DISPERSION OF NSAID
Formulation and evaluation

Nacyna R Patil
Neha D. Dasai
Srinhal D. Elase

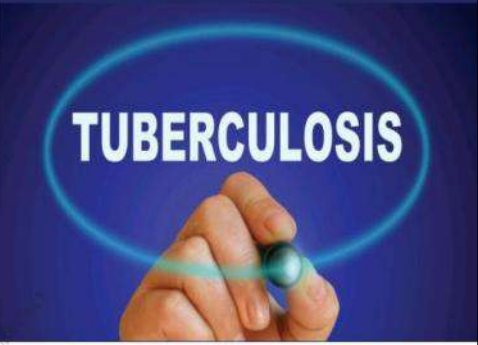



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Patil, Nacyna R.



Lots of modifications have been made during last decades on Triazolone nucleus and their derivatives have been studied extensively for their biological activities. A survey of literature revealed that these Triazolone derivatives possess different types of potential biological activities that include Antioxidant, antifungal, antihemostatic, antibacterial, substituted aromatic aldehyde moiety with Triazolone nucleus for the first time has been associated to be designed for biological activity. As Triazolone nucleus moiety possess potent anti-tubercular activity. From all the above foregoing facts it was thought and considered to be very interesting to synthesis new series of Triazolone derivatives fused with aromatic Aldehyde for anti-tubercular activity.






Prof. Pramod B. Patil, Working as Assistant Professor at Ashokrao Mane College of Pharmacy, Peth Vadgaon. He has an 11 Years of Academic experience and approved PG teacher of Shriway University Kolhapur. He has guided 7 PG students and 44 UG Students for research projects. He has 6 International Publications on his name.


Synthesis of N-Methyl triazolone derivatives as Antitubercular agent
Synthesis new series of Triazolone derivatives fused with aromatic Aldehyde for anti-tubercular activity

Pramod Patil
Poonam Chougule
Nlesh Chougule






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Patil, Chougule, Chougule



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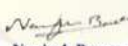
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Nanjesh Bannur
 Director, IIP Proceedings

EMERGING TRENDS IN SCIENCE & TECHNOLOGY, ENGINEERING AND ARTS (ESEA)

Chapter
19

BRINE SHRIMP LETHALITY BIOASSAY OF GALLIC ACID AND QUERCETIN LOADED SOLID LIPID NANOPARTICLES


DR. POORNIMA SANKPAL,¹ DR. SUBESH KILLEDAR,²
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¹Shree Sanj Cajanan Mahara, College of Pharmacy, Mahagaon, (Maharashtra)
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^{*}Corresponding Author: Dr. Poornima Sachin Sanjpal, Email: poornima90@gmail.com

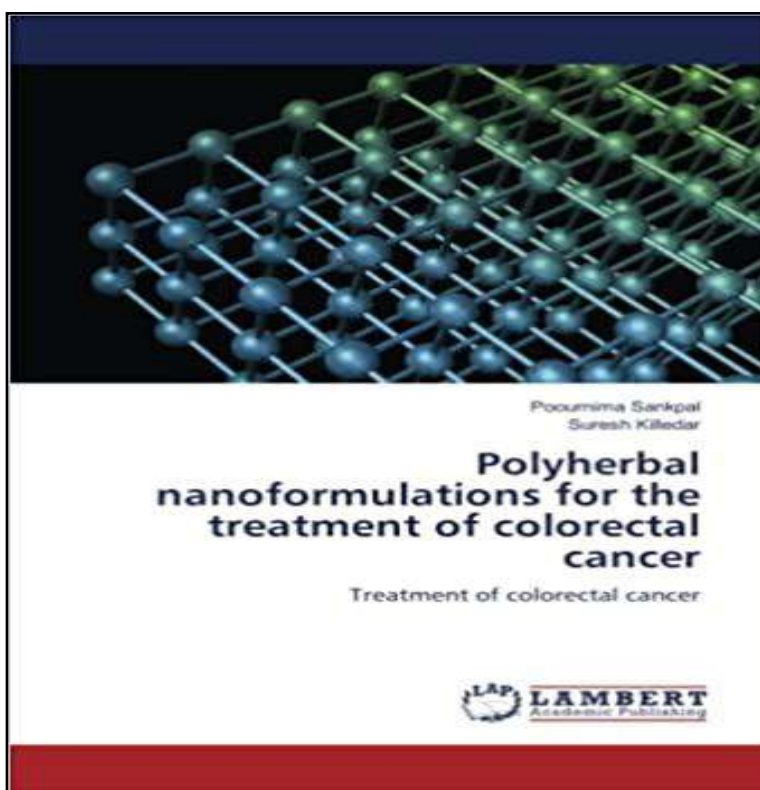
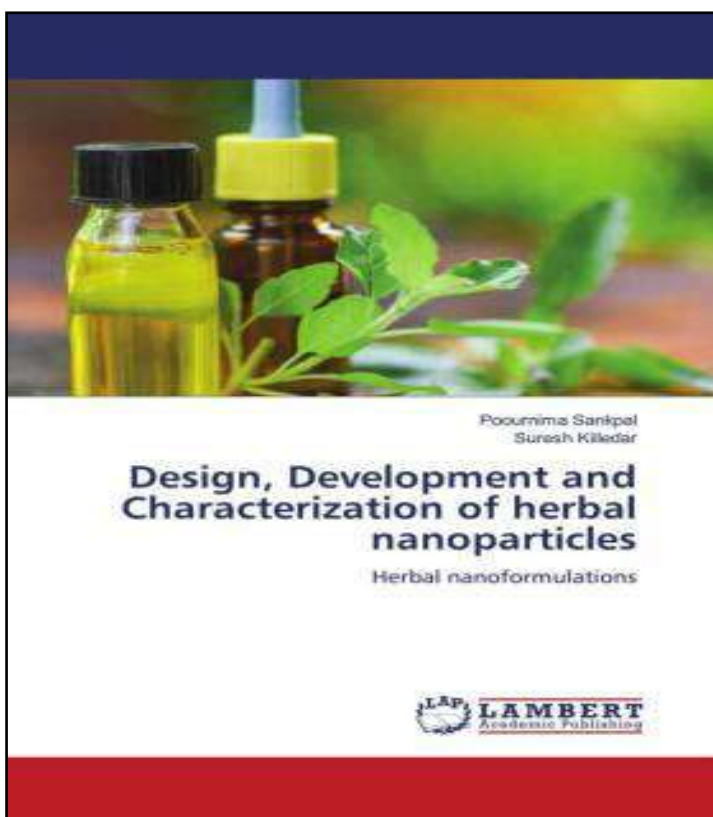
ABSTRACT
The current work was addressed to characterize gallic acid from amla fruit and quercetin from peels of pomegranate fruit and formulated into herbal nanoparticles and to evaluate their cytotoxicity towards brine shrimp (*Artemia salina*) lethality bioassay. Identification of the biomolecules was performed by chromatographic and spectroscopic techniques and characterization of gallic acid and quercetin loaded chitosan nanoparticles carried out by using FT-IR, X- ray diffraction, entrapment efficiency and loading content confirmed successful encapsulation of biomolecules into nanoparticles. *in vitro* drug release studies done by using simulated fluids at various pH (1.2, 4.5, 7.5, and 7.0) and achieved drug releases 77.56% for gallic acid 78.06% for quercetin at 24 hr in a sustained manner. Cytotoxicity was evaluated in terms of LC50 (lethality concentration) After 24 h the surviving brine shrimp larvae were counted and LC50 was assessed. Results showed that the herbal nanoformulation of gallic acid and quercetin loaded nanoparticles were potent against the brine shrimp. It indicated that bioactive components are present in nanoformulation that could be accounted for its pharmacological effects.

KEYWORDS: Gallic acid, quercetin, herbal nanoparticles.

INTRODUCTION
The cancer is one of the most dreaded and threatening diseases in the world, causing more than 6 million deaths a year. [1] Colon cancer is recognized as the third most common cancer worldwide with high morbidity and mortality, and the fourth common cause of death. [2] Various cytotoxic drugs are used for the treatment of colorectal cancer like 5-Fluorouracil, Oxaliplatin and Cisplatin. Drugs are their hydrophobic nature and their susceptibility to develop drug resistance. [3,4]
In these current work great efforts for the discovery and development of nanoformulation based on natural products and their evaluation of *in vitro* cytotoxic effect


SACHIN SANJPAL
 Ashokrao Mane College of Pharmacy,
 Peth Vadgaon, Dist. Kolhapur

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Endophytes are major originators of new bioactive compounds with fascinating pharmacological activities. Here we have isolated, characterized, and screened endophytic bacteria of *Boerhaavia diffusa* Linn (BDEF) root for antioxidant and hepatoprotective activities. BDEF was isolated from the roots and grown in nutrient agar media aseptically. The grown bacteria was further fermented in nutrient broth and extracted using chloroform (CBD) and ethyl acetate (EABD). CBD and EABD were assayed for antioxidant activities by different methods. The highest inhibition was exhibited in EABD with IC50 level of 22.56 µg/ml for DPPH and 82.78 µg/ml for hydroxyl radical. Further, CBD and EABD were evaluated for antihepatotoxic activity against CCl4 induced hepatotoxicity. The results revealed that CBD and EABD at 200 mg/ kg p.o. restored the biochemical parameters against CCl4 induced hepatotoxicity to the normal values. BDEF was studied for rDNA sequencing by polymerase chain reaction technique. The endophytic bacterium was identified as *Bacillus cereus* based on its morphological and molecular characterization. CBD and EABD fractions have exhibited antioxidant and hepatoprotective activity.

Poonam Chougule
Prakash Nargetti
Nilesh Chougule

EVALUATION OF ENDOPHYTIC FRACTIONS OF BOERHAAVIA DIFFUSA L. ROOTS

FOR HEPATOPROTECTIVE ACTIVITY IN RATS

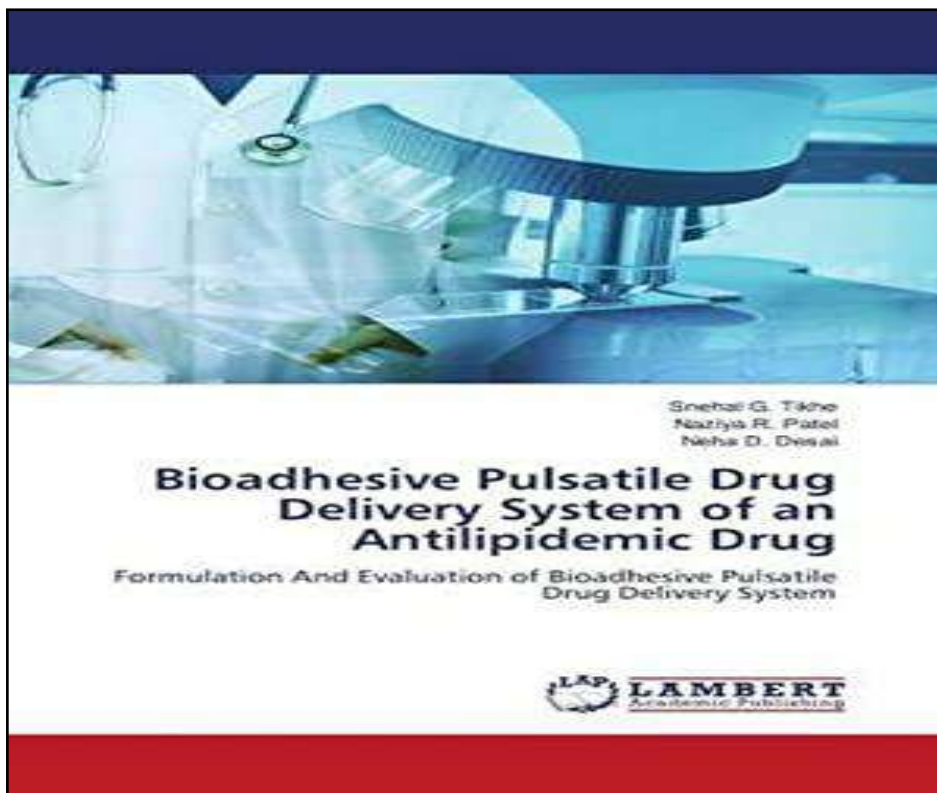
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Neha D. Desai
Naziya R. Patel
Rani S. Dhole

Self Micro-Emulsifying Mouth Dissolving Film

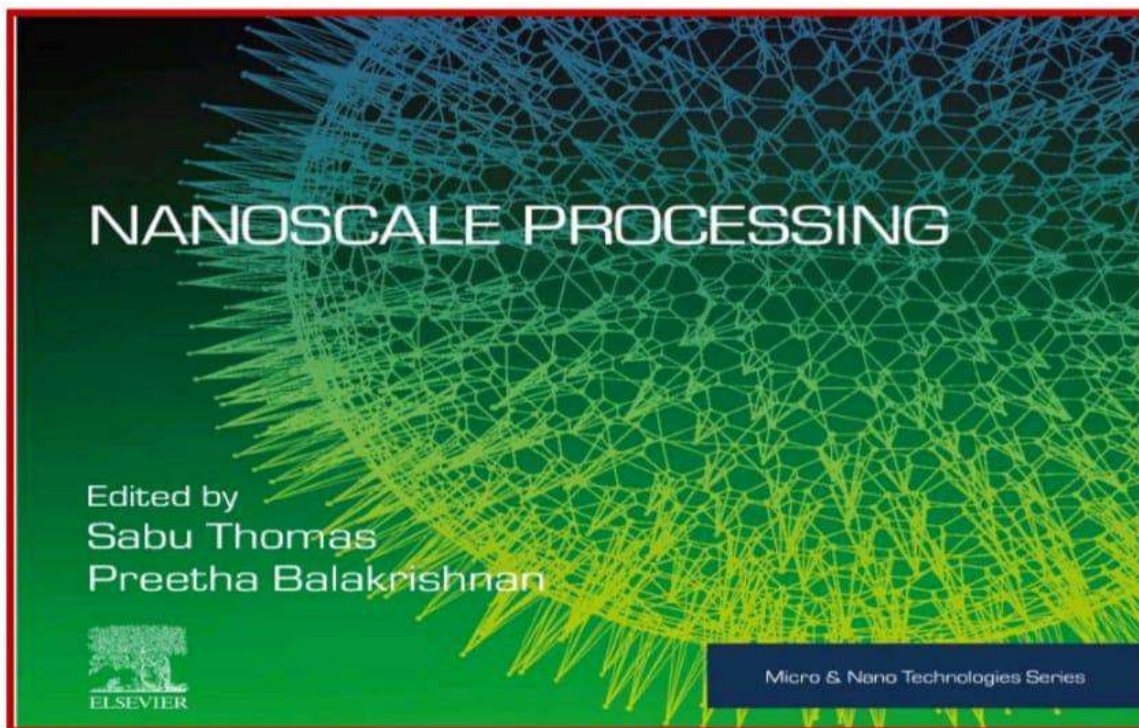
Design, Development and Evaluation

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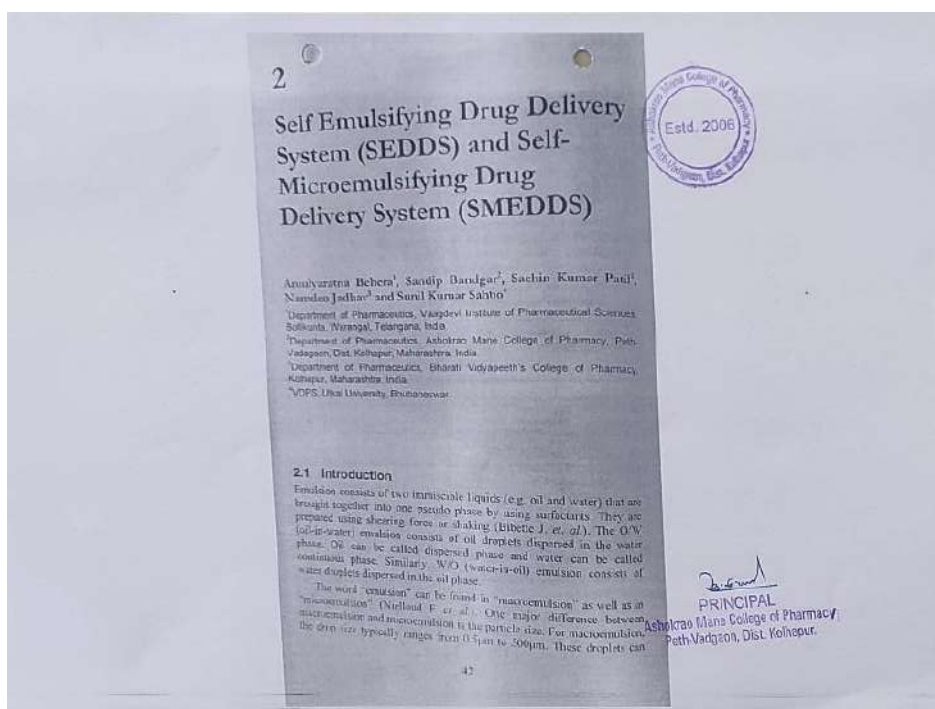
 <p>River Publishers</p> <p>River Publishers Series in Polymer Science Advanced Polymeric Systems Applications in Nanostructured Materials, Composites and Biomedical Fields</p> <p>Editors: Didier Roussel, Institut Jean Lamour, Université de Lorraine, France Praveen K.M. Muthoo Institute of Technology & Science (MITS), India Indu Raj, Government Dental College, International and Mahatma Gandhi University, India Sandhya Gopalakrishnan, Government Dental College, Mahatma Gandhi University, India Hanakumar Kakalikotil, School of Pure and Applied Physics, Mahatma Gandhi University, India Sulekha Thomas, Mahatma Gandhi University, India</p> <p>ISBN: 9788770221368 e-ISBN: 9788770221381 Available From: January 2021 Price: € 95.00</p> <p>Description: Over recent years a considerable amount of effort has been devoted, both in industry and academia, towards the incorporation of various macro, micro and nano sized fibers into polymers. There is also much interest in the evaluation of various polymer properties with respect to a wide set of applications. The advances in nanotechnology together with the development in materials science has progressed the shortcomings of these materials over the decade. This book covers the latest advances in the field of polymer nanocomposites and polymer composites for varied applications.</p> <p>The major topics discussed in the book include:</p> <ul style="list-style-type: none"> • Nanostructured materials for energy applications • Nanostructured polymer/composites • Bio-polymers • Nanostructured polymers for biomedical applications <p>The book contains extended and updated research papers that were initially selected for the ICAMP-2017 conference which focused on advances in polymer materials.</p> <p>The book is ideal for researchers and practitioners in polymer science and materials science as well as for graduate students in polymer chemistry, materials science, nanotechnology and biomedical engineering.</p> <p>Keywords: polymer nanocomposites, polymer-nanoparticle interaction, energy storage devices, solar cells, food packaging, bi-synthesized antimicrobial agents, therapeutics.</p>	<p style="text-align: center;">7</p> <hr/> <h2 style="text-align: center;">Application of <i>Lepidium sativum</i> as an Excipient in Pharmaceuticals</h2> <hr/> <p style="text-align: center;">S. V. Sutar¹, S. S. Shelake¹, S. V. Patil³ and S. S. Patil²</p> <p>¹Department of Pharmaceutical chemistry, Ashokrao Mane College of Pharmacy, Peth-Vadgaon, Hakanangale, Kolhapur, 416112, Maharashtra, India</p> <p>²Department of Pharmaceutics, Ashokrao Mane College of Pharmacy, Peth-Vadgaon, Hakanangale, Kolhapur, 416112, Maharashtra, India</p> <p>³Department of Pharmaceutics, Shree Samkrupa College of Pharmacy, Ghogaon, Karad, Satara, 415111, Maharashtra, India</p>
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<p>Sameer J. Nadaf^a, Sandip A. Bandgar^b, Indrayani D. Raut^c, Sachinkumar V. Patil^a, Suresh G. Killedar^a, and Shitalkumar S. Patil^b</p> <p>^aSant Gajanan Maharaj College of Pharmacy, Mahagaon, Maharashtra, India ^bAshokrao Mane College of Pharmacy, Peth-Vadgaon, Maharashtra, India ^cRajarambapu College of Pharmacy, Kasegaon, Maharashtra, India ^dShree Santkrupa College of Pharmacy, Ghogaon, Maharashtra, India</p>		
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11 - Polymeric materials for targeted delivery of bioactive agents and drugs

Sachinkumar V. Patil*, Sardar S. Shelake[†], Shitalkumar S. Patil[†]

Abstract

In recent years, the application of polymeric materials for a targeted drug-delivery system has been greatly advanced. Since polymeric materials played a crucial role

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