

- Dr. Amol B. Khade, I/c Principal, Indira Institute of Pharmacy Sadavali, has been awarded with certificate for his exceptional contribution as a primary evaluator for Toycathon 2021 by Ministry of Education, Innovation Cell, Government of India.



- Dr. Amol B. Khade received 'Best Poster Award' in the 6th Annual International Conference organized by Goa Centre for Excellence in Intellectual Property, Goa and Goa College of Pharmacy, Goa on 01/12/2021 to 02/12/2021 at Goa College of Pharmacy. He has presented a poster entitled 'Design, synthesis, evaluation and molecular dynamic simulation of triclosan mimic diphenyl ether derivatives as antitubercular and



antibacterial agents.

- Mr. Vipul Sansare, Asst. professor (Pharmaceutics) published research paper entitled 'Design, fabrication and evaluation of sesamol loaded polymeric nanoparticles: In vivo hepatoprotective potential in Wistar rats' in Nanomedicine Research Journal (Scopus Q3 indexed journal with Impact factor 2.02).

**Design, fabrication, and characterization of sesamol loaded polymeric nanoparticles: In vivo hepatoprotective potential in Wistar rats**

Document Type : Original Research Article

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 10.22034/NMRJ.2021.03.010

**Abstract**

Objective(s): Liver diseases affect millions of people worldwide, which are difficult to treat with conventional drug delivery. Numerous drugs have been investigated for treatment of diseases associated with liver however correct drug delivery system need to be find for delivery of drugs. Sesamol is a well-recognized antioxidant phytoactive found in sesame oil has reported to scavenge hydroxyl radical. However unfavorable physicochemical properties limits its use as effective therapeutic agent. Thus present study was started with aim to fabricate sesamol loaded polymeric nanoparticles to minimize limitations associated with conventional delivery of sesamol. Methods: Drug encapsulated nanoparticles were formulated using solvent evaporation ultrasonication technique. The selected technique was found to be effective for preparation of nano sized

## Congratulations

**To our faculty for publication of paper in Scopus Q3 indexed Journal with impact factor 2.02.**



**Mr. Vipul A. Sansare**

Asst. Professor  
(Pharmaceutics)

## Indira Institute of Pharmacy Sadavali, Devrukh



ACCREDITED BY NAAC

- Mrs. K. S. Dhane (Asst. professor of Pharmaceutical Chemistry) and her team members published design patent on design of device delivering antidiabetic treatment.

#### Design Application Details

Application Number: 347776-001  
Cbr Number: 208254  
Cbr Date: 11/08/2021 17:23:39  
Applicant Name:  
1. Dr. Abhinandan Ravsaheb Patil  
2. Dr. Rishabh Deelip Shah  
3. Mrs. Ketaki Swapnil Dhane  
4. Ms. Rashmi Hanumant Mahabal

#### Design Application Status

Application Status: Application Accepted, Certificate of Design not Generated.

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**Heartily  
congratulations**



- Mr. Vipul A. Sansare, Assistant Professor and Mr. Prashant B. Gurav, Assistant Professor and HOD, Department of Pharmaceutics, published paper entitled 'Comprehensive review on use of phospholipid based



vesicles for phytoactive deliver' in Journal of Liposome Research, from Taylor & Francis, listed in Q2 journal with impact factor of 3.648.

# Congratulations



**Mr. P. B. Gurav**  
Asst. Professor and HOD  
(Pharmaceutics)



**Mr. V. A. Sansare**  
Asst. Professor  
(Pharmaceutics)

JOURNAL OF LIPOSOME RESEARCH  
<https://doi.org/10.1080/08982104.2021.1968430>

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**REVIEW ARTICLE**

### Comprehensive review on use of phospholipid based vesicles for phytoactive delivery

Manish Kumar Gupta<sup>a</sup>, Vipul Sansare<sup>a</sup>, Birendra Shrivastava<sup>a</sup>, Santosh Jadhav<sup>b</sup> and Prashant Gurav<sup>c</sup>

<sup>a</sup>School of Pharmaceutical Sciences, Jaipur National University, Jaipur, India; <sup>b</sup>Department of Pharmaceutical Chemistry, SVPM'S College of Pharmacy, Malegaon, India; <sup>c</sup>Department of Pharmaceutics, India Institute of Pharmacy, Sadavali, India

**ABSTRACT**  
Plant-derived phytoconstituents are well known for their therapeutic potential. It has been experimentally demonstrated that whole-plant extract or isolated phytoconstituents reveal various therapeutic potentials like hepatoprotective, antimicrobial, neuroprotective, antitumor, antioxidant, skin protectives, etc. Although these phytoconstituents have potential therapeutic benefits, their use is limited due to their poor bioavailability, stability in biological fluids, and authentication issues. These continue to be an open problem that affects the application of these valuable ancient herbal herbs in the effective treatment and management of various disease conditions. A potential solution to these difficult problems could be the loading of phytoactives in phospholipid-based vesicular systems. Phospholipid-based vesicles like liposomes, phytosomes, ethosomes as well as transfersomes were effectively utilized recently to solve drawbacks and for effective delivery of phytoactives. Several landmark studies observed better therapeutic efficacy of phytoactive loaded vesicles compared to conventional drug delivery. Thus phospholipid-based vesicles mediated phytoactive delivery is a recently developed promising and attractive strategy for better therapeutic control on disease conditions. The present short review highlights recent advances in herbal bioactive loaded phospholipid-based vesicles.

**ARTICLE HISTORY**  
Received 7 April 2021  
Revised 14 July 2021  
Accepted 9 August 2021

**KEYWORDS**  
Plant extracts; phytopharmaceuticals; herbal novel drug delivery systems; phospholipid vesicles; nanotechnology

**1. Introduction**  
Plant extract or isolated therapeutically active phytoconstituents have long been used worldwide for the treatment of various diseases as well as accepted by physicians and patients because of their fewer side effects (Musthafa et al. and development associated with the production, processing, and utilization of materials having a nanometer size range (Patra et al. 2018). Furthermore, nanotechnology in the herbal drug domain has been investigated to improve the

- Mrs. Medha A. Khade, Assistant Professor received maximum contributor award for DyanGanga an E-repository of APTI, Mumabi. The award was conferred by APTI, Mumbai regional branch (Association of Pharmaceutical

Teachers of India), during its 1st anniversary celebration of Pharmadarpan and DnyanGanag and it was announce by Dr. Milind Umekar, Vice President, APTI National on 15.08.2021.



- Ms. Shrutali Pilankar, Lecturer (Diploma in Pharmacy) received maximum contributor award for DyanGanga an E-repository of APTI, Mumbai. The award was conferred by APTI, Mumbai regional branch (Association of Pharmaceutical Teachers of India), during its 1st anniversary celebration of Pharmadarpan and DnyanGanga and it was announced by Dr. Milind Umekar, Vice President, APTI National on 15.08.2021.
- Dr. Amol B. Khade, Assistant Professor & HoD, Department of Pharmaceutical Chemistry published Textbook of Pharmaceutical Chemistry for diploma in pharmacy. The book published by IP Innovative Publisher, New Delhi.



## Congratulations

### to our faculty for publication of Textbook

**Dr. Amol B. Khade**



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**Dr. Rajeev Kumar**  
**Dr. Amol B. Khade**

Pharmaceutical Chemistry I

About the Authors

**Dr. Rajeev Kumar M.Pharm, Ph.D.**

Has completed his B. Pharm from Dr. K.N. Khadi Institute of Pharmaceutical Education and Research, Madhwar, Ghazabed, U.P. and M.Pharm (Pharmaceutical Chemistry) from Sangli Institute of Technology and Management, Lucknow (U.T) and Ph.D. degree in Pharmaceutical Science from Uttarakhand Technical University, Dehradun, U.K. He is having 11 years of teaching experience. He has qualified 04 times GNET exam. He is expert in teaching of organic chemistry, medicinal chemistry, biochemistry, pharmaceutical analysis and inorganic chemistry. He has guided 03 M. Pharm and 13 B. Pharm students. He has published 23 national and international research papers, present papers and organized several national and international conferences. He is currently working as Associate Professor and HOD, Pharmaceutical Chemistry at Dr. K.M. Institute of Pharmacy, Pimpri, Subhansagar, Uttar Pradesh.

**Dr. Amol B. Khade M.Pharm, Ph.D.**

Has completed his B. Pharm from B.V.'S Pooana College of Pharmacy, Pune, Maharashtra, M. Pharm with first rank in Pharmaceutical Chemistry from K.J.S.V. College of Pharmacy, Belgur, Karnataka and Ph.D. degree in Pharmaceutical Sciences from Manipal College of Pharmaceutical Sciences, Manipal, Karnataka. He is an expert in drug discovery, synthesis of NCI, Molecular modelling and structural elucidation of organic compounds. He has fetched several fellowships and grants like AICTE O.P. Fellowship, 4 Minor Research Grants from University of Mumbai, N. Udaya Daxel Grant to present research paper at University of Putra, Malaysia. During his 18 years of teaching and 1 year of industrial experience he has guided 5 M. Pharm and 8 Pharm students for their research projects. He has published 26 research papers in the national & international journal of repute. He is an active member of ACS, APTI and MSDC. He is currently working as Assistant Professor and HOD, Pharmaceutical Chemistry at P.S.P.S.'s Indira Institute of Pharmacy, Sadavali, Ratnagiri, Maharashtra.



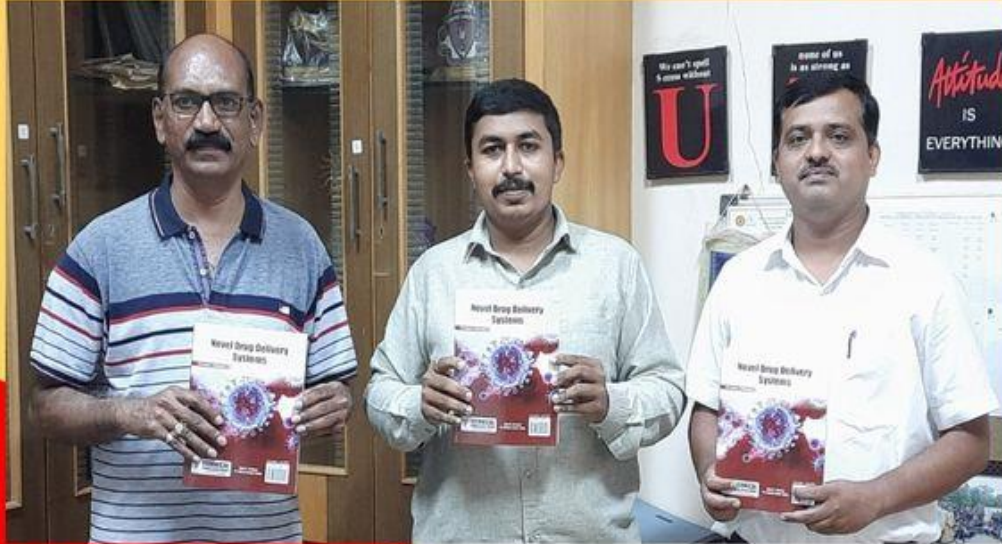
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For Booking visit us on [www.facebook.com/ipinnovative](https://www.facebook.com/ipinnovative)



- Mr. Vipul Sansare, Assistant Professor Pharmaceutics published book entitled 'Novel Drug Delivery System'. The book published by Technical Publication, Pune, Maharashtra.

**Textbook of Novel Drug Delivery Systems written by Mr. Vipul A. Sansare (Asst. Professor of Pharmaceutics) has been released.**



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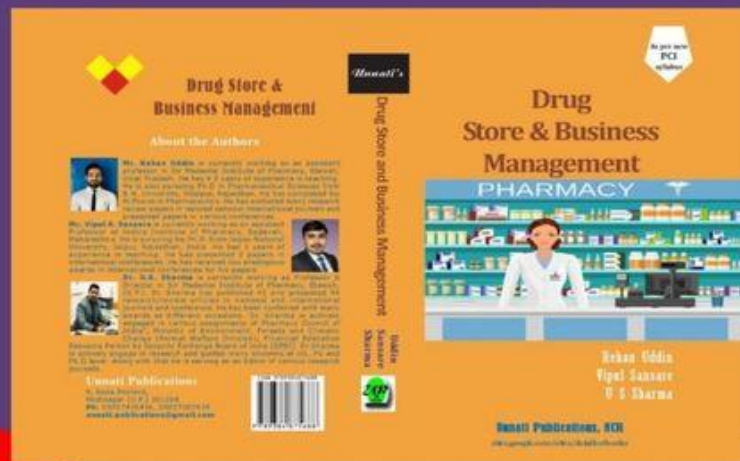
- Mr. Vipul Sansare, Assistant Professor Pharmaceutics published book entitled 'Drug Store and Business Management' for Diploma in Pharmacy. The book published by Unnati Publication, UP.



**Mr. V. A. Sansare**  
Asst. Professor  
(Pharmaceutics)

# Congratulations

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- Mr. Vipul A. Sansare, Assistant Professor and Mr. Prashant B. Gurav, Assistant Professor and HOD, Department of Pharmaceutics, published book chapter entitled 'Recent advances in phytoactive delivery' in Edited book entitled 'Recent Research in Pharmaceutical Sciences' published by Weser Books. Germany.

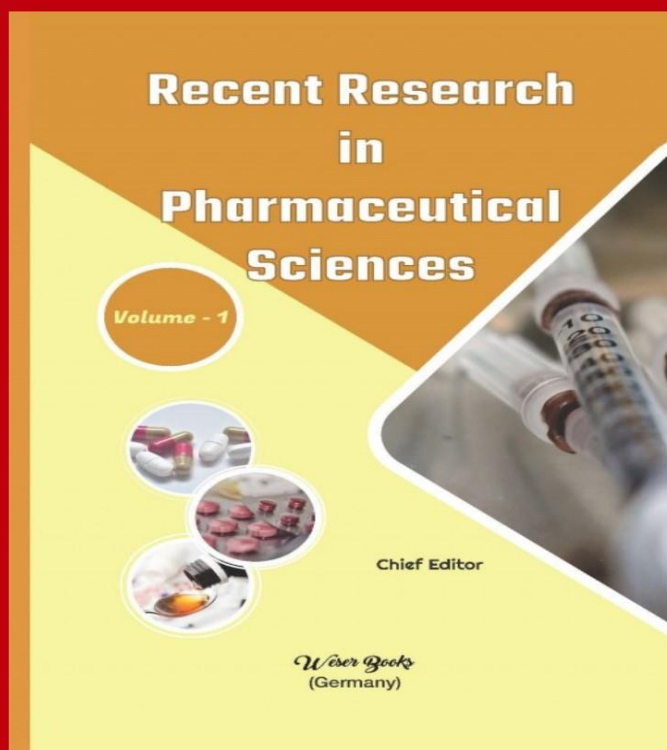
		
<p><b>Mr. P. B. Gurav</b> Asst. Professor and HOD (Pharmaceutics)</p>	<p><b>Mr. V. A. Sansare</b> Asst. Professor (Pharmaceutics)</p>	

- Mr. Vipul A. Sansare, Assistant Professor published book chapter entitled 'Nanocarrier mediated urinary bladder targeted drug delivery' in Edited book entitled 'Recent Research in Pharmaceutical Sciences' published by Weser Books. Germany.



**Mr. V. A. Sansare**


Asst. Professor  
(Pharmaceutics)





- Dr. Amol B. Khade, Assistant Professor & HoD, Department of Pharmaceutical Chemistry published research paper entitled 'Synthesis, Characterization and Biological Evaluation of Indole-Pyrazole Amalgamated Cyano Substituted Chalcones' in Anticancer Agents in Medicinal Chemistry, An Scopus indexed journal with impact factor 3.3.

**Congratulations**



**Dr. A. B. Khade**  
HOD and Asst. Professor of  
Pharmaceutical chemistry

Publication of research paper in  
reputed, international journal

**Anti-Cancer Agents**  
in Medicinal Chemistry

Full-Text  
Inquiry

**Research Article**

**Synthesis,  
Characterization  
and Biological  
Evaluation of  
Indole-Pyrazole  
Amalgamated  $\alpha$ -  
Cyano Substituted  
Chalcones**

*(E-pub Abstract Ahead of Print)*

**Author(s):** Pravin S. Bhale,  
Sadanand N. Shringare, Amol B.  
Khade, Hemant V. Chavan\*

**Journal Name:** Anti-Cancer Agents  
in Medicinal Chemistry  
(Formerly Current Medicinal Chemistry -  
Anti-Cancer Agents)

**DOI :** 10.2174/18715206216662102  
01095030



- Mr. Prashant B. Gurav, Assistant Professor and HOD, Department of Pharmaceutics, published paper entitled 'Isoxsuprine Hydrochloride Loaded Cellulose Acetate Phthalate Microsponge Drug Delivery System: Design and Evaluation' in Indian Journal of Pharmaceutical Education and Research, An Scopus indexed journal with impact factor 0.6



Publication of research paper in  
reputable, Scopus indexed national journal



**Mr. P. B. Gurav**

Asst. Professor of Pharmaceutics

Original Article

## Isoxsuprine Hydrochloride Loaded Cellulose Acetate Phthalate Microsponge Drug Delivery System: Design and Evaluation

Shubhangi Kagade<sup>1\*</sup>, Jignasa Savjani<sup>2</sup>, Dattatraya Yadav<sup>3</sup>, Prashant Gurav<sup>3</sup>

<sup>1</sup>Department of Pharmaceutics, SVET's College of Pharmacy, Pandharpur, Maharashtra, INDIA.

<sup>2</sup>Department of Pharmaceutical Chemistry, Institute of Pharmacy, Nirma University, Ahmedabad, Gujarat, INDIA.

<sup>3</sup>Department of Pharmaceutics, Indira Institute of Pharmacy, Sadavai, Raigarh, Maharashtra, INDIA.

### ABSTRACT

**Aim:** The present study was aimed to Design and evaluation of microsponge based drug delivery system of Isoxsuprine Hydrochloride. The microsponge drug delivery system is designed for site specific and controlled release of drug by using cellulose acetate phthalate to improve the site-specific absorption of drug. **Materials and Methods:** The microsponges was formulated by modified quasi emulsion solvent diffusion technique. The chemical interaction between Isoxsuprine Hydrochloride, cellulose acetate phthalate, ethyl cellulose and polyvinyl pyrrolidone was studied by FTIR, the results of FTIR it was confirmed that there were no chemical reaction in between drug and polymer. The compatibility study of drug and polymer were confirmed by DSC. **Results:** The results of FTIR it was confirmed that there were no chemical reaction in between drug and polymer. The *in vitro* drug release found in between range of 91.97% to 98.78% the highest % CDR was shown by formulation M55. The optimized formulation (M55) demonstrated favorable % entrapment efficiency (93.6%), % buoyancy (78%) and % cumulative drug release (98.78%). SEM revealed the release of Isoxsuprine Hydrochloride in controlled release pattern from spherical and porous microsponges. **Conclusion:** This study provides a new approach to formulate and evaluate the microsponges of Isoxsuprine Hydrochloride for treatment of premature labor during pregnancy.

**Key words:** Microsponges, Isoxsuprine Hydrochloride, Cellulose acetate phthalate, Quasi emulsion solvent diffusion, Site specific absorption.

- Mr. Amol Khade was awarded the degree of Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences, under the Quality Improvement Program of AICTE, New Delhi by Manipal Academy of Higher Education (MAHE), Manipal, Karnataka in June 2020 for research work entitled "Rational Design and Synthesis of Novel Diphenyl Ether Derivatives As Antitubercular Agents". He carried out his research work under the guidance of Prof. Dr. G. Gautham Shenoy, Vice Principal, Manipal College of Pharmaceutical Sciences, Manipal, and the co-guidance of Dr. Vandana K.E., Professor & Head, Department of Microbiology, Kasturba Medical College, Manipal.



**Mr. A. B. Khade**

Asst. Professor and HOD  
(Pharmaceutical Chemistry)



- Mr. V. A. Sansare, Assistant Professor of Pharmaceutics has received 1st prize for poster presentation on the paper entitled “Cellular trafficking of nanocarriers in alveolar macrophages for effective management of pulmonary tuberculosis” at 4th Annual International Conference on Intellectual Property Rights organized by Goa College of Pharmacy, Goa on November 11 & 12, 2019.



- Mr. Sujit K Nagare, Assistant Professor and HOD, elected as an editorial board member of 'Pharma Darpan' an annual magazine of APTI, Mumbai region.

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- Mr. Vivek Kulkarni, Assistant Professor of Pharmaceutical Chemistry, published paper entitled 'The synthesis of quinazolon 1,3,4-oxadiazole analogues and studies on their antimicrobial and antioxidant activity' in International Journal of Pharmaceutical Science and Research, an Scopus indexed journal.



**Mr. V. S. Kulkarni**  
Asst. Professor  
(Pharmaceutical Chemistry)

Kulkarni et al., IJPSR, 2019, Vol. 10(3): 1477-1484. E-ISSN: 0975-8232; P-ISSN: 2320-5148

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INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES AND RESEARCH

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**THE SYNTHESIS OF QUINAZOLON-1,3,4-OXADIAZOLE ANALOGUES AND STUDIES OF THEIR ANTIMICROBIAL AND ANTIOXIDANT ACTIVITY**

V. S. Kulkarni<sup>1\*</sup>, D. S. Chavan<sup>1</sup> and G. P. Sentil Kumar<sup>2</sup>

Department of Pharmaceutical Chemistry<sup>1</sup>, Indira Institute of Pharmacy, Sadavali (Devrukh), Ratnagiri - 415804, Maharashtra, India.  
Bharathi College of Pharmacy<sup>2</sup>, Bharathinagara - 571422, Karnataka, India.

**Keywords:**  
1,3,4-oxadiazole, Quinazolone, Antimicrobial, Antioxidant

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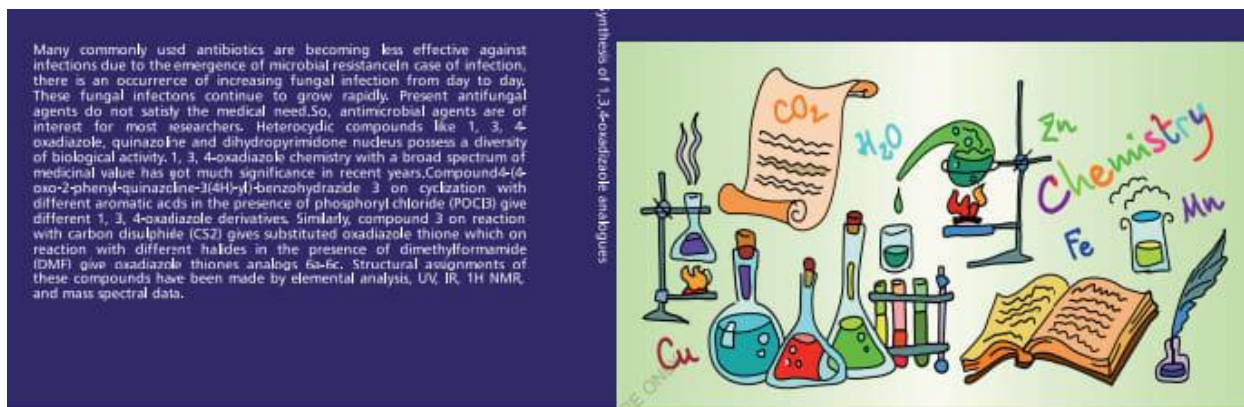
**ABSTRACT:** A series of conjugation of two heterocycles 1, 3, 4-oxadiazole and quinazolone were synthesized and screened for antimicrobial as well as antioxidant activity. Compound 4-(4-oxo-2-phenyl-quinazolin-3(4H)-yl)-benzohydrazide 3 on cyclization with different aromatic acids in the presence of phosphoryl chloride (POCl<sub>3</sub>) give different 1, 3, 4-oxadiazole derivatives. Similarly, compound 3 on reaction with carbon disulphide (CS<sub>2</sub>) gives substituted oxadiazole thione which on reaction with different halides in the presence of dimethylformamide (DMF) give oxadiazole thiones analogs 6a-6c. Structural assignments of these compounds have been made by elemental analysis, UV, IR, <sup>1</sup>H NMR, and mass spectral data. Synthesized analogs were screened for *in-vitro* growth inhibition activity against different strains of bacteria and fungi and compared with standard drugs ciprofloxacin and fluconazole. Compounds 4e and 4f have good activity against bacteria. All compounds have moderate activity against fungi. These compounds were screened for antioxidant activity by using radical scavenging DPPH assay by using ascorbic acid as a standard drug. Compounds 4e, 6a to 6c have good antioxidant activity.



- Dr. A. B. Khade, Assistant Professor and HoD, Department of Pharmaceutical Chemistry selected as resource person for ‘One day national level conference on Novel Trends in Drug Design and Natural Product Chemistry’ organized by YBCP, Sawantwadi on 2<sup>nd</sup> February 2019.



- Mr. V.S.Kulkarni, Assistant Professor, Dept. of Pharmaceutical chemistry written book entitled "Synthesis and biological activity of some new oxadiazole analogues" with Lambert Academic Publishing house.



Many commonly used antibiotics are becoming less effective against infections due to the emergence of microbial resistance. In case of infection, there is an occurrence of increasing fungal infection from day to day. These fungal infections continue to grow rapidly. Present antifungal agents do not satisfy the medical need. So, antimicrobial agents are of interest for most researchers. Heterocyclic compounds like 1, 3, 4-oxadiazole, quinazoline and dihydropyrimidone nucleus possess a diversity of biological activity. 1, 3, 4-oxadiazole chemistry with a broad spectrum of medicinal value has got much significance in recent years. Compound 4-(4-oxo-2-phenyl-quinazolin-3(4H)-yl)-benzohydrazide 3 on cyclization with different aromatic acids in the presence of phosphoryl chloride (POCl<sub>3</sub>) give different 1, 3, 4-oxadiazole derivatives. Similarly, compound 3 on reaction with carbon disulphide (CS<sub>2</sub>) gives substituted oxadiazole thione which on reaction with different halides in the presence of dimethylformamide (DMF) give oxadiazole thionates analogs. Structural assignments of these compounds have been made by elemental analysis, UV, IR, <sup>1</sup>H NMR, and mass spectral data.

Synthesis of 1,3,4-oxadiazole analogues

Vivek Kulkarni  
Dr. Senthil Kumar G P



He has completed B Pharm with first class from Shivaji University, Kolhapur and completed M Pharm in Pharmaceutical Chemistry from Bharathi College of Pharmacy, Bharathinagara, RGLHS, Karnataka. At present he is working as Asst professor in department of Pharmaceutical Chemistry at Indira Institute of Pharmacy, Sadavali, Maharashtra.

## Synthesis and Biological Evaluation of Some New Oxadiazole Analogues



978-620-0-21145-3

Kulkarni, Kumar G

