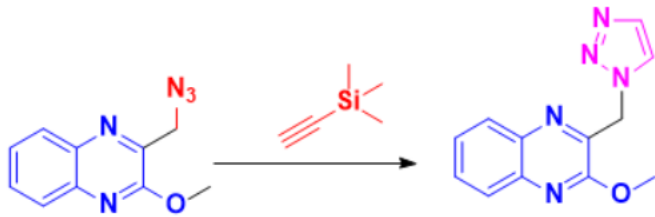
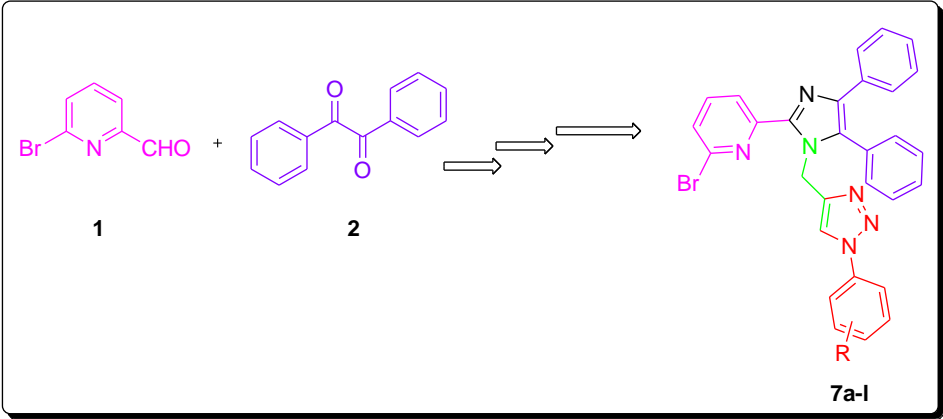


Graphical abstract

Paper-1	Heterocyclic Letters 14: iss.-1 (2024), 13-16
An efficient copper catalyzed synthesis of 2-Methoxy-3-(1H-1,2,3-triazol-1-yl) methyl)quinoxalines under Click conditions	
Shashikala Kethireddy¹, AsraBanu Syeda², Balaraju Vudari³, Ravi Kumar Bommera⁴ and Laxminarayana Eppakayala^{3*}	
¹ Geethanjali College of Engineering and Technology, Cheeryala(V), Keesara(M), Hyderabad, 501301TelanganaIndia ² Department of Chemistry, JazanUniversity,AlMaarefah Rd, Jazan, Saudi Arabia ³ Sreenidhi Institute of Science and Technology (Autonomous), Yamnampet, Ghatkesar, -501301 Telangana, India ⁴ Sri Nicholas FineChem Laboratories, IDA Balanagar, Hyderabad, - 500037 Telangana India *E-mail: elxnkits@yahoo.co.in	
	

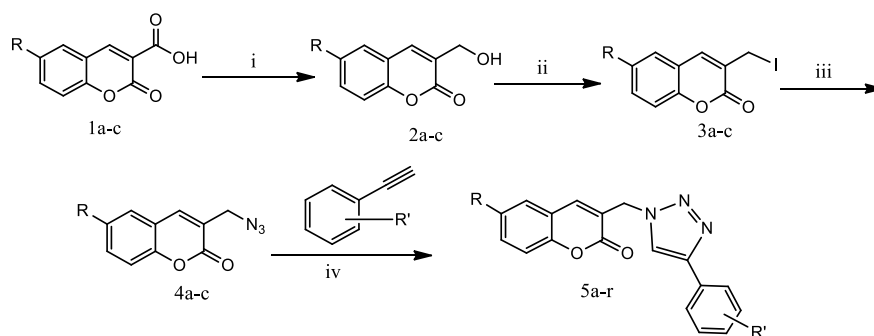
Paper-2	Heterocyclic Letters 14: iss.-1 (2024), 17-27
Synthesis of 2-bromo-6-(4,5-diphenyl-1-((1-phenyl-1H-1,2,3-triazol-4-yl) methyl)-1H-imidazol-2-yl) pyridine derivatives: Evaluation of anticancer activity and molecular docking studies	
Lakavath Ramdas,¹ Dharmasothu Veeranna¹, Guguloth Ravi¹, Jadhav Ramchander^{1*}	
¹ Department of Chemistry, University College of Science, Osmania University, Hyderabad, Telangana-500 007, India. Corresponding author: Jadhav Ramchander Email: ramorgchemou@gmail.com	
	


Synthesis, characterization and biological activity of 3-((4-substituted phenyl-1*H*-1,2,3-triazol-1-yl)methyl)-2*H*-chromen-2-ones
M. Mahesh^a, P. Sanjeeva^a, G. Manjunath^a, G. Bheemaraju^a, V. Kamala Prasad^b and P. Venkata Ramana^{a*}
^aDepartment of Chemistry, Sri Krishnadevaraya University, Ananthapuramu-515003, Andhra Pradesh, India.

^bDenisco Chemicals Pvt. Ltd., Hyderabad-500055, Telangana, India.

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In the present study, a novel series of 3-((4-substituted phenyl-1*H*-1,2,3-triazol-1-yl)methyl)-2*H*-chromen-2-ones were synthesized in good yields using substituted 3-(azidomethyl)-2*H*-chromen-2-one as a precursor. Substituted 3-(azidomethyl)-2*H*-chromen-2-ones were in turn synthesized using substituted 2-oxo-2*H*-chromene-3-carboxylic acid as starting material. All the newly synthesized compounds were characterized by IR, NMR, mass spectra and elemental analyses. The newly synthesized chromen-2-ones were screened for their antibacterial and antifungal activities by disc diffusion method.


 (i) TEA, ECF, THF, -15°C, 30 min, NaBH₄, H₂O, 0°C, 5 min.

 (ii) Imidazole, PPh₃, I₂, Dry DCM, Over night

 (iii) DMF, NaN₃, rt, 3hr

 (iv) CuSO₄, Sodium ascorbate, rt, t-BuOH + H₂O (1:1) rt

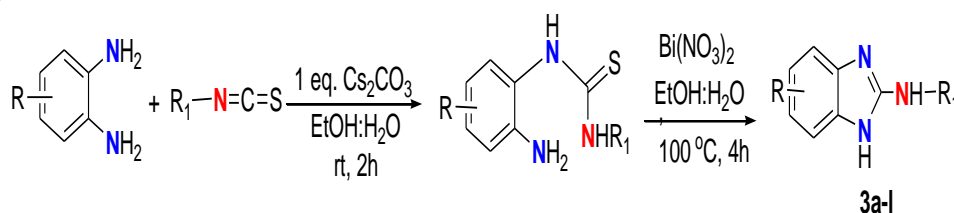
 R = -H, -CH₃, -Cl

 R' = -H, 4-CH₃, 4-OCH₃, 4-Cl, 4-NO₂, 2-Cl

Scheme
Bi (iii) catalyzed one pot-two component approach: Synthesis of 2-aminoaryl Benzimidazoles
S N Murthy Boddapati,^{a*} Bhuvanewari Chalapaka,^a Satish V A N^a Srinivas Pilli^a
^a Dept. of Chemistry, Sir C. R. Reddy College, Eluru, Andhra Pradesh, India-534007.

 *Correspondence: snmurthyboddapati@gmail.com

A simple rapid one-pot two component method was developed for the synthesis of 2-aminoaryl Benzimidazoles from various *o*-phenylenediamine reacts with phenylisothiocyanates using an efficient, inexpensive and readily available Bi(NO₃)₂·5H₂O Catalyst. The protocol proceeds through Nucleophilic addition and Bi(III) promoted desulfurization and C-N bond formation reactions.





Paper-5

Heterocyclic Letters 14: iss.-1 (2024), 55-63

An approach to rapid one-pot multi-component synthesis of 1,4-dihydropyrano [2,3-c] pyrazole catalyzed by core shell NiO-Co₃O₄@CuO nanoplates under solvent-free conditions.

S.V. Thakare, ^{a*} A.V. Borhade, ^b S. L. Sangle ^c

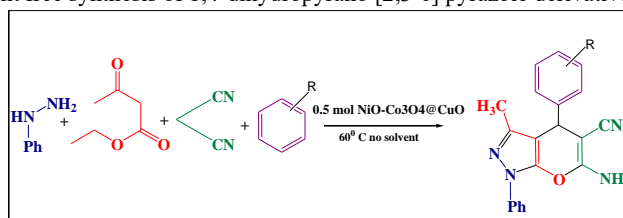
^a Department of Chemistry K.S.K.W. Arts, Commerce and Science College CIDCO Nashik 422008 Maharashtra India

^b Department of Chemistry H.P.T. Arts & R.Y.K. Science College Nashik 422 005, Maharashtra India

^c Department of Chemistry Shri Swami Shatkopacharyaji Maharaj (S.S.S.M.) Arts, Science and Commerce College, Saikheda

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Core shell NiO-Co₃O₄@CuO nanoplates is novel, recoverable and cost-effective nanoscale heterogeneous solid catalysts for one-pot multi-component solvent free synthesis of 1,4-dihydropyrano [2,3-c] pyrazole derivatives.



R= H, 4-F, 4-Cl, 4-OH, 4-Me, 3-NO₂, 4-OMe

Paper-6

Heterocyclic Letters 14: iss.-1 (2024), 65-72

Synthesis, characterization and antimicrobial activity of novel chalcone derivatives having 1-[4-(benzyloxy)-3-chlorophenyl] ethanone moiety.

Shreekant Prajapati ^a, Sanjay S. Shah ^b, Saddam. S. Sipai ^c

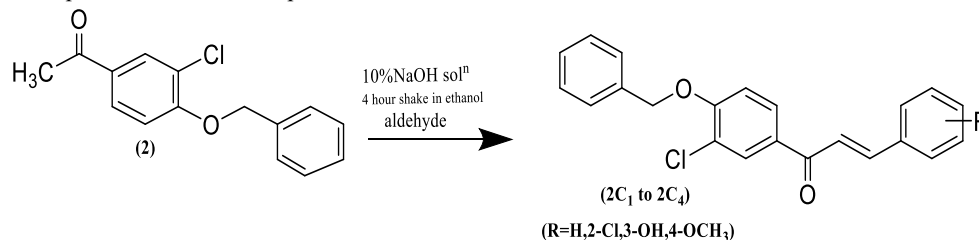
^aPh.D. Scholar, Department of Chemistry, H. N. G. U, Patan

^bProfessor, Department of Chemistry, Shri U P Arts, Smt. M. G. Panchal Science & V.L. Shah Commerce College, Pilvai, Gujarat, India

^cResearch Assistant, Department of Chemistry, Shri U P Arts, Smt. M. G. Panchal Science & V.L. Shah Commerce College, Pilvai, Gujarat, India

Corresponding Author Email: shreekant12041991@gmail.com

The simple and highly effective clasian Schmidt reaction occur between novel ketone and different aldehyde and gives chalcone. Reaction performed at room temperature for 4 hour.



Synthesis of coumarin-coupled pyrazole and isoxazole compounds

Abhimanyu Pawar^{a*}, Kishor Naktode^a, Kishore Puri^b and Santosh Gaikwad^{b,c}

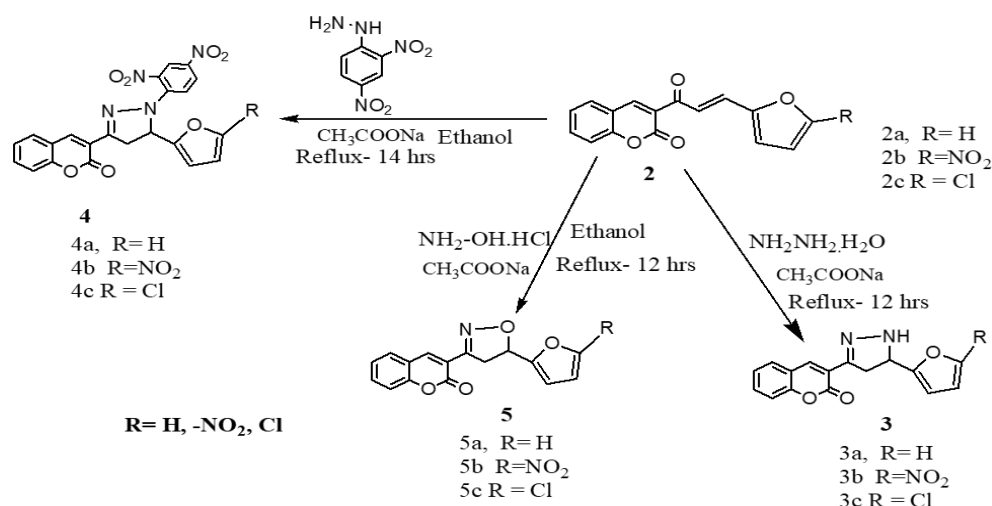
^a Department of Chemistry, Nevjabai Hitkarini College, Bramhapuri, Maharashtra 441 206, India

^b Department of Chemistry, Shri Shivaji College of Arts, Commerce and Science, Akola – 444 003 (Maharashtra), India.

^c Department of Chemistry, Late Pundalikrao Gawali Arts and Science College, Shirpur (Jain), Dist. Washim – 444504, Maharashtra, India.

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In the current study, we synthesized new compounds, namely 3-(substituted-(Furan-2-yl) acryloyl)-2H-chromen-2-one, 3-(5-substituted-(furan-2-yl)-4,5-dihydro-1H-pyrazol-3-yl)-2H-chromen-2-one, 3-(3-(5-substituted-furan-2-yl)-4,5-dihydro-1-(2,4-dinitrophenyl)-1H-pyrazol-5-yl)-2H-chromen-2-one, and 3-(5-(5-substituted-furan-2-yl)-4,5-dihydroisoxazol-3-yl)-2H-chromen-2-one, along with derivatives. Characterization of these novel compounds was achieved using infrared (IR), ¹H NMR, ¹³C-NMR spectroscopy, and elemental analysis. These reactions were conducted in the presence of sodium acetate as a catalyst and ethanol as the solvent.



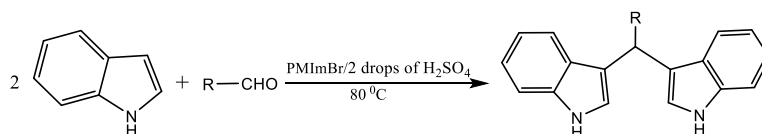
An Efficient Synthesis of Bis Indolyl Methane Using PMImBr

Rakesh P. Chaudhari^a, Ganesh R. Chaudhari^a, Hemant A. Mahajan^{b*}

^aDepartment of Chemistry, Arts and Science College, Bhalod, Taluka-Yawal, Dist-Jalgaon MS, India.

^bDepartment of Chemistry, MTES's Smt. G.G. Khadse College, Muktainagar, Taluka- Muktainagar, Dist-Jalgaon MS, India.

A simple and efficient protocol has been developed for the synthesis of a series of bisindolyl methanes using an ionic liquid and a few drops of sulfuric acid. The reaction involves a three-component, one-pot condensation of two molecules of indole and aromatic aldehydes. The environmentally friendly protocol has high yields, quick reaction times, and easy product recovery.

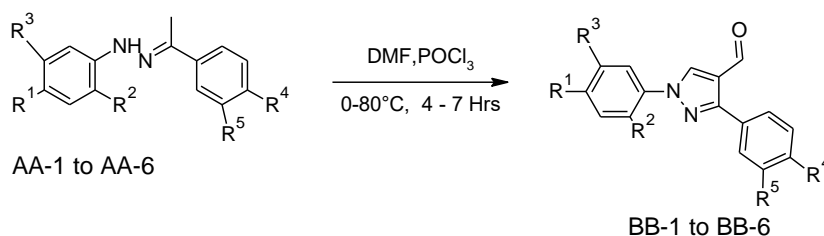




In silico approaches for antidepressant activity of novel pyrazole derivative

Arunkumar Malaviya^{a*}, Zakirhusen Gadhawala^b, Vishwaskumar Panchal^c^{a,c} Department of Chemistry, H.N.G.U., Patan, Gujarat, India^b Department of Chemistry, The HNSB LTD Science College, Himatnagar, 383001, Gujarat, India

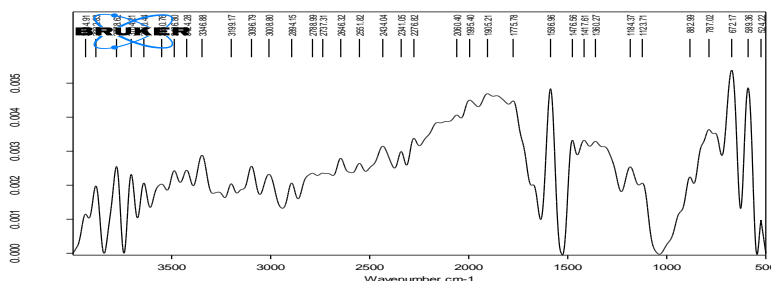
In this study, we conducted a comprehensive structural analysis of six newly synthesized compounds, denoted as BB1-BB6, all of which featured carbaldehydes with various substituents. Structural confirmation was achieved through a battery of analytical techniques, including IR, ¹H-NMR, ¹³C-NMR, and ESI-MS. Subsequently, we utilized advanced In Silico methodologies to evaluate the antidepressant potential of these compounds, employing molecular docking to assess their interactions with relevant receptors.

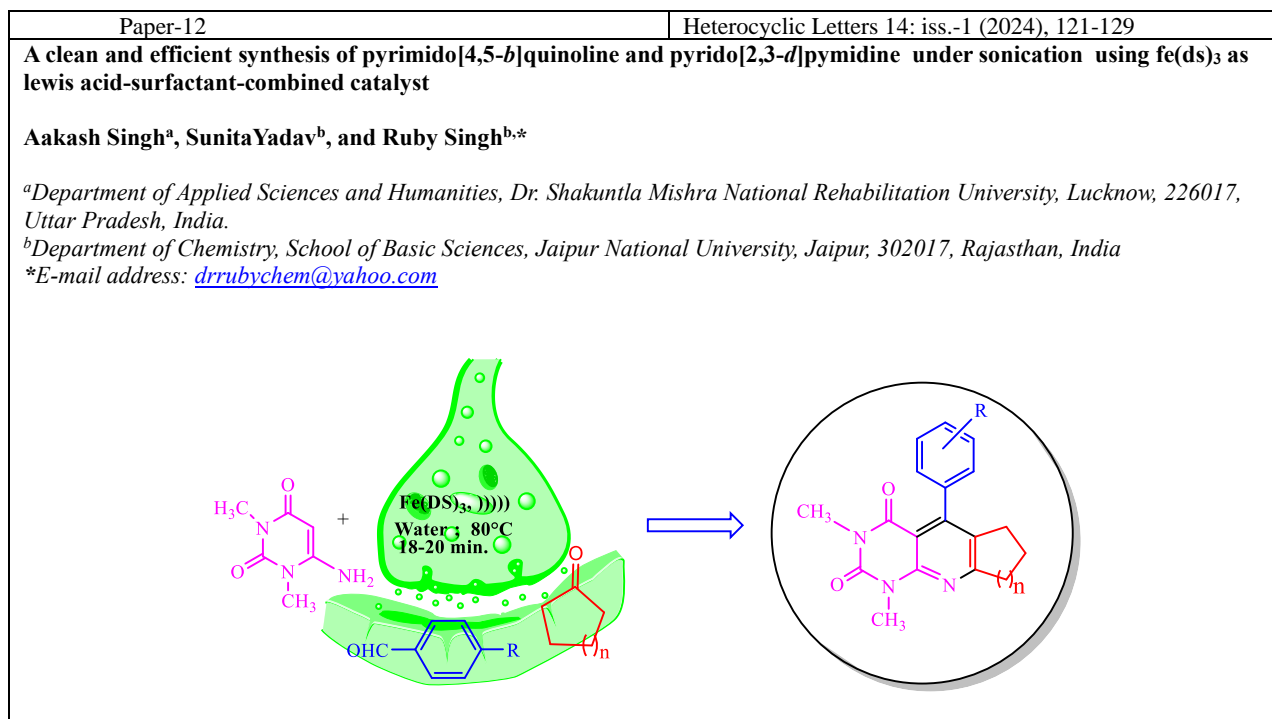
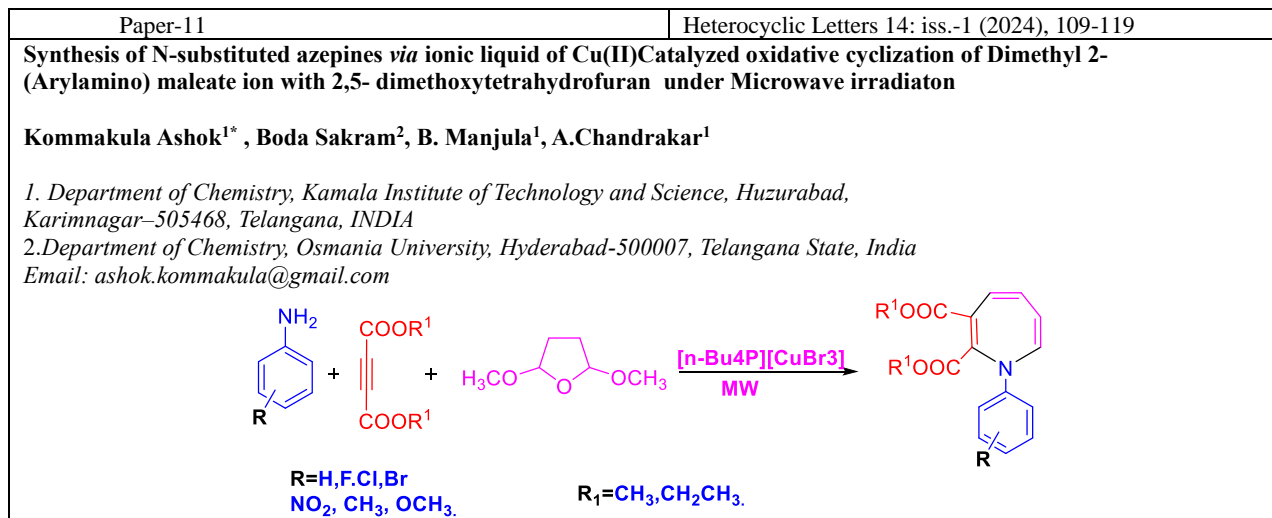


Screening of microbes with ability to produce surface-active biomolecules from petroleum contaminated sites.

Malode, U.A.^a N.S. Satone and K.A.Kale^b^a Department of Microbiology, Bajaj College of Science, Wardha.442001 Maharashtra, India^b Department of Biotechnology, Bajaj College of Science, Wardha.442001 Maharashtra, India*Corresponding author: ulka9malode@gmail.com

Bacterial strain isolated from petroleum contaminated soil of Wardha region produces surface active biomolecule.







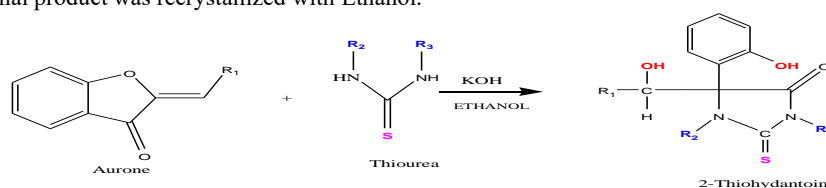
Synthesis, characteristics and anticancer activity of novel 2-thiohydantoin analogues

Prashant. A. Gotmare^{1*}, and Sanjay V. Kolhe

¹Department of Chemistry, Shri Shivaji Arts, Commerce and Science college, Akot, Dist. Akola-444101, (Maharashtra), India

*E-Mail: prashantpatilchem2763@gmail.com

Aurone (0.01 M) and N-substituted thiourea (0.01 M) were added to a round bottom flask along with 10% KOH and Ethanol as a solvent. A reaction mixture was reflux about 3 hr. The mixture had been cooled, poured into ice cold water and filtered using a suction pump. The final product was recrystallized with Ethanol.



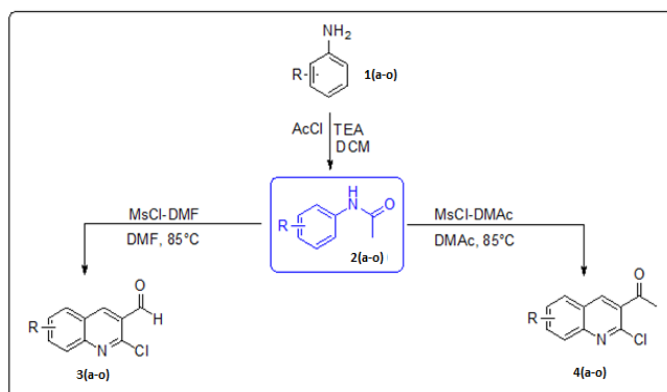
“MsCl-DMF/DMAc: A Vilsmeier-Haack type reagent for the synthesis of 2-chloro-3-formyl quinolines/ 2-chloro-3-acetyl quinolines”

Mahesh P More^a and Tanuja V Kadre^{a*}.

^aDepartment of Chemistry, Dr. A. P. J. Abdul Kalam University, Indore, Madhya Pradesh, India-452016.

*Correspondence Author Email: tanujavkadre@gmail.com

2-Chloro-3-formyl quinolines and 2-chloro-3-acetyl quinolines were synthesized by reaction of N, N-dimethyl formamide (DMF)-methane sulfonyl chloride or N, N-dimethyl acetamide (DMA) - methane sulfonyl chloride (MsCl) system with corresponding acetanilide respectively. Methane sulfonyl chloride adducts with N, N'-dimethyl formamide (DMF) and N, N'-dimethyl acetamide (DMA) were explored as an alternative to Vilsmeier –Haack (VH) type reagents for effective synthesis of 2-chloro-3-formyl quinolines and 2-chloro-3-acetyl quinolines. Reaction times and temperature reduced significantly using this adduct as compared with N, N'-dimethyl formamide - phosphoryl chloride adduct or N, N-dimethyl acetamide - phosphoryl chloride adduct. The synthesized compounds were characterized by melting points, ¹H- NMR and mass spectral data.





Paper-15

Heterocyclic Letters 14: iss.-1 (2024), 153-168

Polyborate supported perchloric acid as an efficient solid acid catalyst for one-pot synthesis of 12-aryl-8, 9, 10, 12-tetrahydrobenzo[a]xanthene-11-one derivatives under solvent-free condition

Dilip Aute^a, Tushar Bendre^a, Amol Parhad^a, Vaishali Murade^a, Gopinath Shirole^b, Vijay Kadnor^c, Bhagwat Uphade^a and Anil Gadhave^{*a}

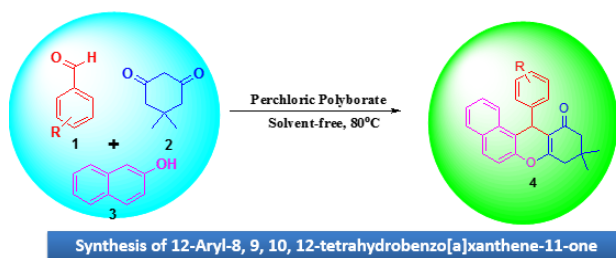
^aDepartment of Chemistry and Research Centre, Padmashri Vikhe Patil College, Pravaranagar, Dist.Ahmednagar-413736 (MS), India.

(Affiliated to Savitribai Phule Pune University, Pune)

^bDepartment of Chemistry, Arts, Science & Commerce College, Rahata.

^cDepartment of Chemistry, Arts, Commerce & Science College, Satral.

Corresponding author email address: anilgadhave@gmail.com



Paper-16

Heterocyclic Letters 14: iss.-1 (2024), 169-174

Comparative study of potential antimicrobial activity of root and leaves of ginger against selected bacteria.

R.D. More^a, S.D. Chavan^b, S.P. Moharir^c, M.V. Bankar^d, N.P. Bhosale^e, M.D. Jadhav^f

^{a*,b,c}Department of Chemistry, Siddharth Arts, Commerce & Science College, Jafrabad, Jalna-431206(M.S.) India.

^{d,e}Department of Botany, Siddharth Arts, Commerce & Science College, Jafrabad, Jalna-431206(M.S.) India.

^fDepartment of Microbiology, Siddharth Arts, Commerce & Science College, Jafrabad, Jalna-431206(M.S.) India.

Antimicrobial activity of root and leave of ginger was studied using aqueous, ethanol and n-Hexane extract against two test pathogens namely *Paeruginosa* and *S. typhi*.

Plant	Extract Prepared	Test Pathogens Used	Antimicrobial Activity (+/-)	
			<i>P. aeruginosa</i>	<i>S. typhi</i>
Root of Ginger (<i>Zingiber officinale</i>)	Aqueous Extract	<i>Pseudomonas aeruginosa</i> <i>Salmonella typhi</i>	-	-
	Ethanol Extract		+	+
	n-Hexane Extract		-	+
Leaves of Ginger (<i>Zingiber officinale</i>)	Aqueous Extract		-	+
	Ethanol Extract		+	+
	n-Hexane Extract		-	+

+ Indicates Activity
- Indicates No activity

Phytofabrication of silver nanoparticles using various parts of punica granatum and their antimicrobial activities

Angelin Pushpa B^{a*}, T. Sahaya Maria Jeyaseeli^b

^aAssistant Professor , Department of Nano science, Sarah Tucker College, (Autonomous) Tirunelveli - 627 007, affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India.

^bAssistant Professor; Department of Nanoscience, Sarah Tucker College, (Autonomous) Tirunelveli - 627 007, affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India.

*Corresponding author E-mail: angelin0809@gmail.com Mobile Number: 9486164199

In the present work, we described the green synthesis of silver nanoparticles (SNPs) using various parts of *Punica granatum* and their antimicrobial activities. The Bio-reduction of silver ions have been performed by the various parts of extract of *Punica granatum*. The antimicrobial activity of green synthesised SNPs is compared with AgNO₃ and the extract. *Punica granatum* extract showed good antibacterial activity against E.coli. The phytochemical investigation of *Punica Granatum* aqueous extract showed that it is rich in Xanthoproteins, Tannins, Terpenoids, Flavonoids, Phenols, Lacking steroids, Glycosides Coumarins, Fatty acids and Steroids. The biosynthesised SNPs were characterized by UV- visible spectrometry. Finally the phytochemical screening indicates that the plant parts are good source of bioactive principle for pharmaceutical industry.



Synthesis, characterization and application studies of TiO₂-phosphotungstic acid nanocomposites prepared by blending method

Praveendaniel M¹, Rajesh Anantha Selvan P², Paramanatha Swami Doss D³

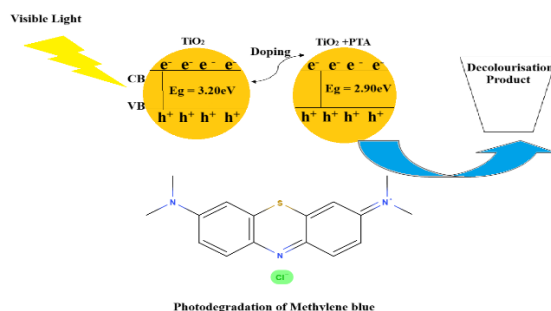
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²Assistant Professor Department of Chemistry, St. John's College, Palayamkottai, Tirunelveli, Tamil Nadu, Affiliated to Manonmaniam Sundaranar University, Tirunelveli, India

³Assistant Professor Department of Zoology, St. John's College, Palayamkottai, Tirunelveli, Tamil Nadu, Affiliated to Manonmaniam Sundaranar University, Tirunelveli, India

*Corresponding author Email: rajesh.chem@stjohnscollege.edu.in

TiO₂-PTA nanocomposites were synthesized by blending method and characterized by UV-visible, FT-IR, XRD, EDX, and SEM. The results showed that there is a strong interaction between TiO₂ and PTA, with a decreased crystallite size and uniformly distributed dopant. The nanocomposites showed excellent photocatalytic activity, with a degradation efficiency of 99.64%. The electrical conductivities of the nanocomposites increased with increasing temperature, and the dielectric constants were positive. The nanocomposites also had significant antimicrobial activity against *Streptococcus pyogenes*. These results suggest that the TiO₂-PTA nanocomposites have promising properties for applications in many different fields.

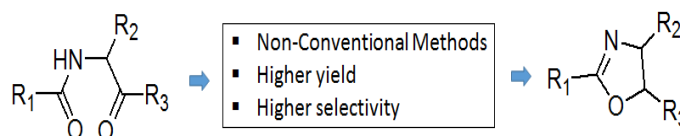


REVIEWS

Mini-review on the synthesis of oxazole derivatives using non-conventional methods.

Figueroa-Valverde Lauro^{1*}, Rosas-Nexticapa Marcela², Alvarez-Ramirez Magdalena², Ortega-Cervantes Catalina², Melgarejo-Gutierrez, Montserrat³ Mateu-Armand², López-Ramos Maria¹, Mijangos-Sánchez Juliette¹.

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Unlocking the Biological Potency of 2H-Chromene: A Comprehensive Review

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