

## Graphical Abstract

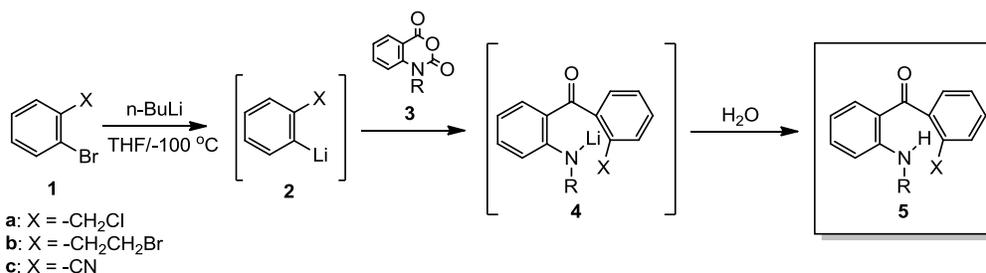
Heterocyclic Letters 6: iss.-3 (2016), 323-327

### Reaction of Functionalized Aryllithium Reagents with N-Alkylisatoic Anhydrides. A Straight forward Route to 2'-Substituted 2-N-Alkylaminobenzophenone Derivatives

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N-Substituted isatoic anhydrides have been found to cleanly undergo acylation with Parham reagents (highly electrophilic functional group-substituted aryllithium reagents) followed by elimination of CO<sub>2</sub> to afford novel 2'-substituted 2-N-alkylaminobenzophenones difficult to prepare by standard methods. Such derivatives could prove useful as intermediates toward the preparation of novel heterocyclic systems.

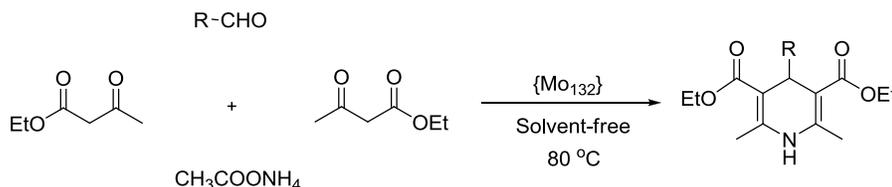


Heterocyclic Letters 6: iss.-3 (2016), 329-339

### Efficient and rapid hantzsch synthesis of 1,4-dihydropyridines using a nano isopolyoxomolybdate as a reusable catalyst under solvent-free condition

Ahmad Nakhaei\*, Sepideh Yadegarian, and Abolghasem Davoodnia

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In this work, Hantzsch synthesis of 1,4-dihydropyridines by one-pot reaction of aldehydes, ammonium acetate, and ethyl acetoacetate in the presence of a Keplerate type giant nanoporous isopolyoxomolybdate, (NH<sub>4</sub>)<sub>42</sub>[Mo<sup>VI</sup><sub>72</sub>Mo<sup>V</sup><sub>60</sub>O<sub>372</sub>(CH<sub>3</sub>COO)<sub>30</sub>(H<sub>2</sub>O)<sub>72</sub>], represented as {Mo<sub>132</sub>}, as catalyst under solvent free conditions has been reported.

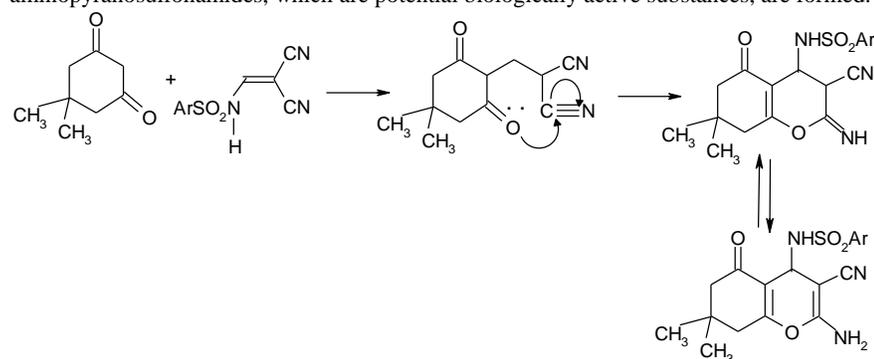
**Study of the reaction of n-2,2-dicyanoethynylsulfonamides with 1,3-dioxo compounds. Synthesis of 2-aminopyranosulfonamides**

Sabir Ahmad oghlu Mammadov\* and Sevgili Ismail gizi Mammadova

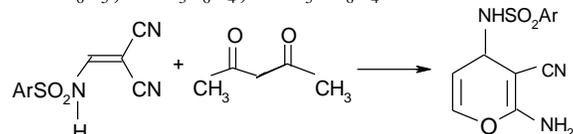
Institute of chemistry of additives of National AS of Azerbaijan

E-mail: [alximikseva@rambler.ru](mailto:alximikseva@rambler.ru)

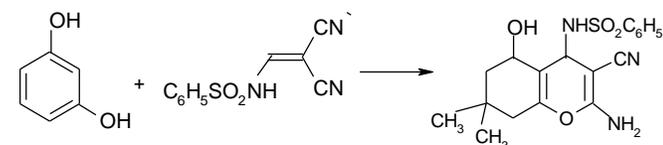
The influence of sulfamide group on the heterocyclization reaction of N-2,2-dicyanoethynylsulfonamide with dimedone, acetylacetone and resorcin was investigated. It was established that as a result of the reaction with high yield 2-aminopyranosulfonamides, which are potential biologically active substances, are formed.



Ar = C<sub>6</sub>H<sub>5</sub>, 4-CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>, 4-CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>



Ar = C<sub>6</sub>H<sub>5</sub>, 4-CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>

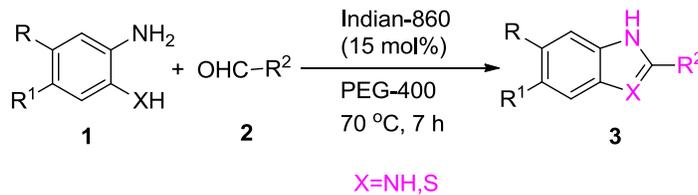


**Indian-860: An efficient green synthesis of 2-substituted 1,3-benzazoles**

K. Sudhakar\*, A.V.V. Srinu Prasad, S. Narsima chary, M. Suresh S. Ravi

\* Rural Development Society, R&D centre, Punjagutta, Hyderabad, India, 500082.

\*E-mail: [ksudhakariict@gmail.com](mailto:ksudhakariict@gmail.com)



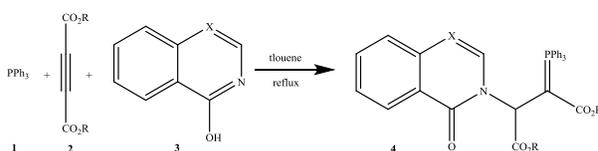
An efficient, mild and an eco-friendly method is described to synthesis of 1,3-benzazole by Indian-860 facilitated reaction of 1,2-phenylenediamine / 2-aminothiophenol with alkyl/aryl aldehydes with excellent yield

**Synthesis of Stable Phosphorus Ylides via Three Component Reaction of Triphenylphosphine, Dialkyl acetylenedicarboxylates and 1- Hydroxy isoquinoline or 4- Hydroxy quinazoline**

**Bitia Mohtat,\* and Fereshteh Jamshidi**

*Department of Chemistry, Karaj Branch, Islamic Azad University, Karaj, Iran*

A simple and mild process for synthesis of Stable Phosphorus Ylides from Triphenylphosphine, Dialkyl acetylenedicarboxylates and 1- Hydroxy isoquinoline or 4- Hydroxy quinazoline is described.



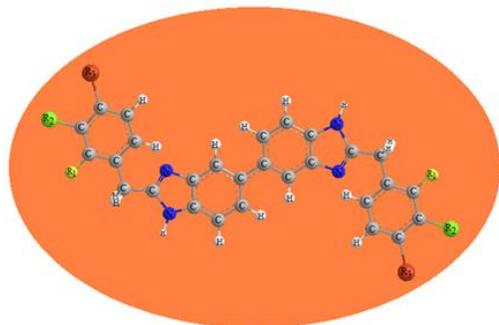
**Determination of Biological Activities and pKa at Drug Active Substance In Some Bisbenzimidazoles Derivatives**

**Fatih İslamoğlu\*, Naciye Erdoğan and Emre Mentşe**

*Recep Tayyip Erdoğan University Department of Chemistry, Rize, 53100, Turkey.*

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Bisbenzimidazole derivatives have known different structures as drug active substance were evaluated for their biological activities such as antiviral and anti-tumor activities. In addition, acid dissociation constants (pKa) were determined experimentally with potentiometric titration method and theoretically with SPARC computer programme about state acidity for these five compounds at 25°C.



Group	1	2	3	4	5
R <sub>1</sub>	-Cl	-H	-H	-H	-H
R <sub>2</sub>	-H	-Cl	-H	-CH <sub>3</sub>	-CH <sub>3</sub>
R <sub>3</sub>	-H	-H	-Cl	-H	-H

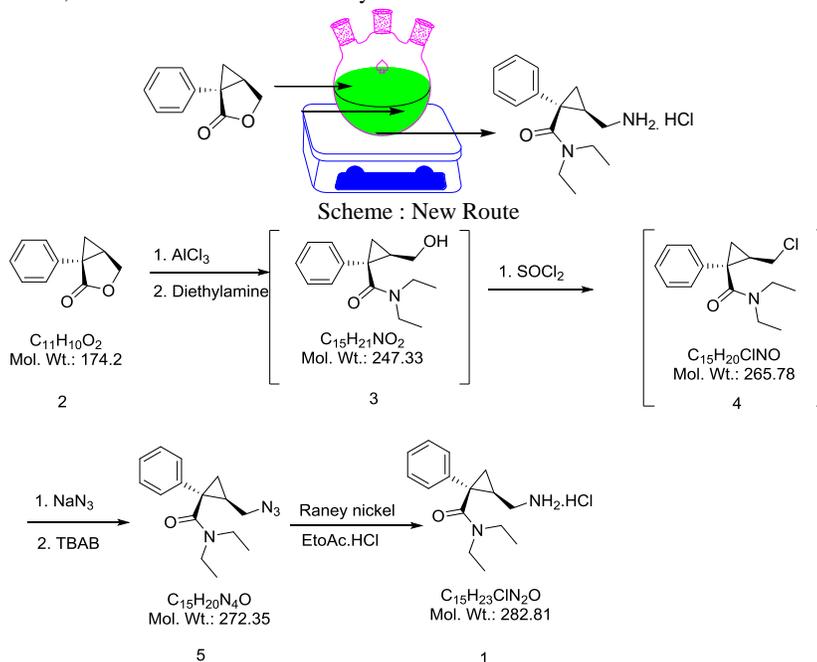


**Efficient Synthesis of Milnacipran Hydrochloride with Atom economy approach**

**Glory Arava and N.Venkatasubbanaidu**

Department of chemistry, Sri Venkateswarauniversity, Tirupati-517502, A.P, INDIA  
 E-mail: [aglor999@gmail.com](mailto:aglor999@gmail.com); [Nvs69@gmail.com](mailto:Nvs69@gmail.com)

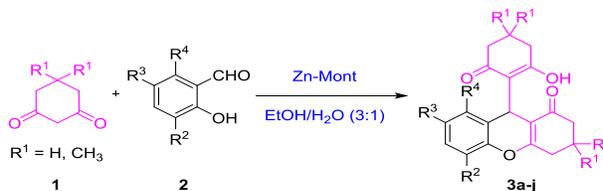
The short and efficient synthesis of milnacipran has been achieved from the commercial available cis(±)1-Phenyl-3oxabicyclo[3.1.0]hexane-2-one using the atom economy concept and the target compound was achieved with reduction of azide in presence of Raney nickel, toluene and methanol recovery and reuse also established.



**Synthesis of 1-Oxo-1, 2, 3, 4, 9, 10-hexahydroanthene derivatives catalyzed by Zn-montmorillonite and their evaluation of biological activity**

**K. Sudhakar\*, K.Arundhathi, S. Narsima chary, S. Ravi**

\* Rural Development Society, R&D centre, Punjagutta, Hyderabad, India, 500082.  
 \* E-mail: [ksudhakariict@gmail.com](mailto:ksudhakariict@gmail.com)



A novel approach for the synthesis of 1-Oxo-1, 2, 3, 4, 9,10-hexahydroanthene derivatives (**IIIa-j**) from 1,3-cyclohexane dione or dimedone and substituted salicylaldehydes is described using a catalytic amount of Zinc montmorillonite as catalyst at heating conditions in the presence of ethanol and catalytic amount of DMF media with excellent yield.

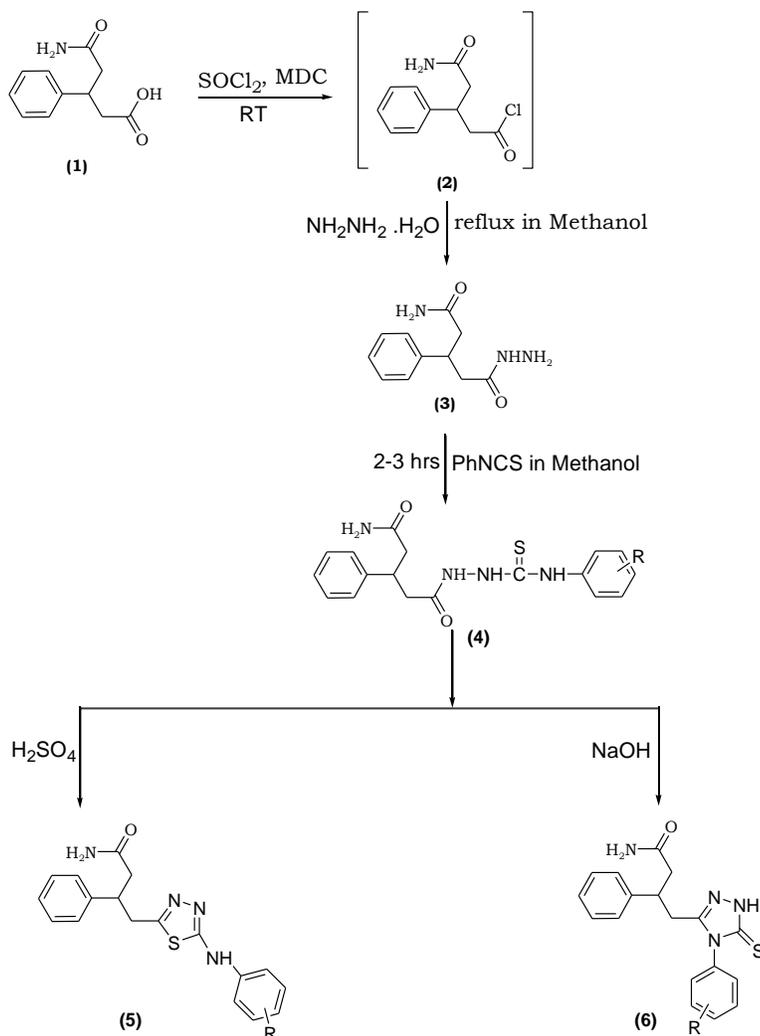
**Heteroannulation of substituted thiocarbohydrazide**

**Mustaqeem Mohammed A and Juliet Miranda**

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Royal College, Penkar Pada, Mira Road(East),  
Thane-401 107, Maharashtra, India  
E-mail: mustaqeem19@gmail.com*

4-Hydrazinocarbonyl-3-phenylbutanamide on reaction with aryl isothiocyanate gave substituted phenylthiosemicarbazino derivatives, which on treatment with NaOH and Conc.H<sub>2</sub>SO<sub>4</sub> afforded 3-phenyl-4-{5-thioxo-4-(substituted phenyl)-4,5-dihydro-1H-[1,2,4]-triazol-3-yl}butanamide and 3-phenyl-4-{5-(substituted phenyl) [1,3,4]thiadiazol-2-yl}butanamide, respectively. Structures have been elucidated on the basis of spectral and chemical analysis.

**Reaction Scheme**



**New approach for the synthesis of spiro indolinone incorporated 1,2,4-triazolo[1,5-a]quinoline derivatives and their pharmacological screening**

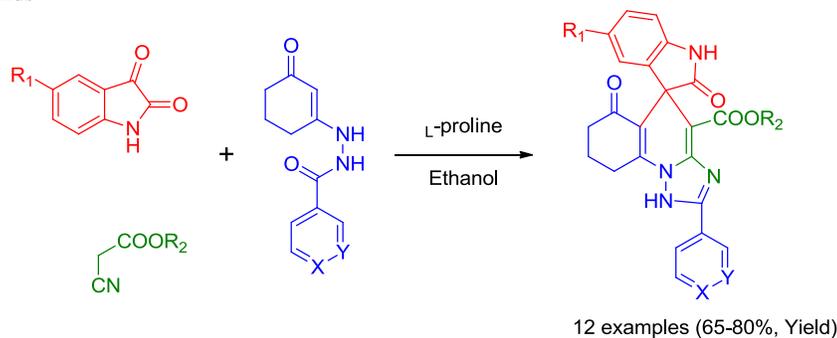
**Gaurav G. Ladani and Manish P. Patel\***

Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar 388120, Gujarat, India

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Spiro indolinone incorporated 1,2,4-triazolo[1,5-a]quinolines are described as a new class of antimicrobial, antitubercular and antimalarial compounds



**Iodobenzene Catalyzed Efficient Synthesis of Fused Triazolopyrimidines using *m*-Chloroperbenzoic Acid**

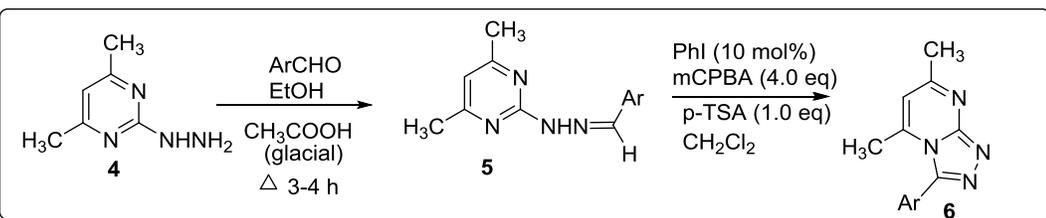
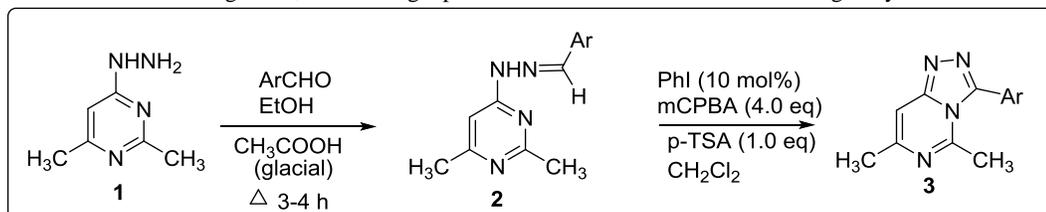
**Neena<sup>a,b</sup>, Sonia Nain<sup>b</sup>, Dinesh Kumar<sup>a,b</sup>, Ravi Kumar<sup>a,\*</sup>**

<sup>a</sup>Department of Chemistry, Dyal Singh College, Karnal-132001 (India)

<sup>b</sup>Department of Chemistry, DeenBandhuChottuRam University of Science and Technology, Murthal (Sonapat)-131039 (India)

\*Corresponding Author: [ravi.dhamija@rediffmail.com](mailto:ravi.dhamija@rediffmail.com) (R.Kumar)

The oxidative cyclization of 2,6-dimethyl-4-pyrimidinylhydrazones (**2**) and 4,6-dimethyl-2-pyrimidinylhydrazones (**5**) has been accomplished using iodobenzene as a catalyst to furnish fused triazolopyrimidines in the presence of *m*CPBA as a terminal oxidant. The reaction is general, and the target products can be obtained in moderate to good yields.

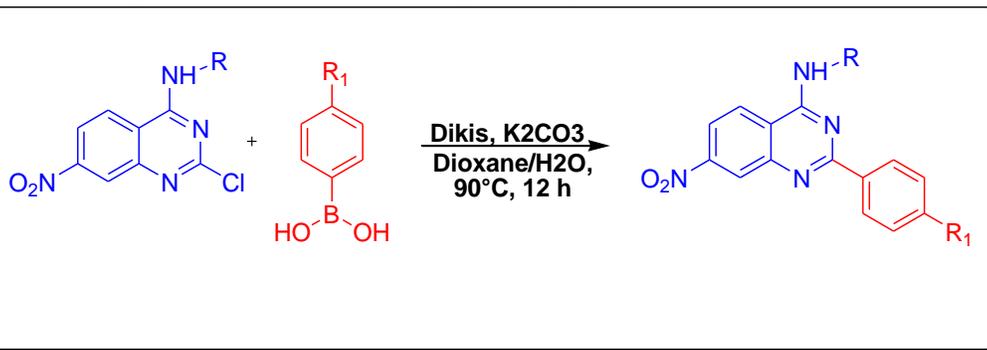


**Palladium catalyzed Suzuki reaction for synthesis of new trisubstituted quinazoline derivatives**

Mr. S. P. Kakad\*, Dr. S. S. Thakare

Post graduate Teaching Department of Chemistry  
Shree Shivaji Science College, Amravati  
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A method is presented for the modern derivatization of quinazoline through Suzuki cross coupling reaction between 2-chloro-N-alkyl-7-nitroquinolin-4-amine and substituted phenyl boronic acid. The carbon-carbon bond formation has been achieved by this reaction. These products are derivatives of new or very rare heterocycles. The products have been characterized through the usual chemical techniques like, <sup>1</sup>HNMR, IR, and mass spectral analyses.



**Bismuth triflate catalyzed ecofriendly and efficient synthesis of bis(indolyl)methanes by grinding approach**

S. D. Bhakare<sup>1</sup>, S. B. Gaikwad<sup>2\*</sup>, R. B. Jogdand<sup>3</sup>

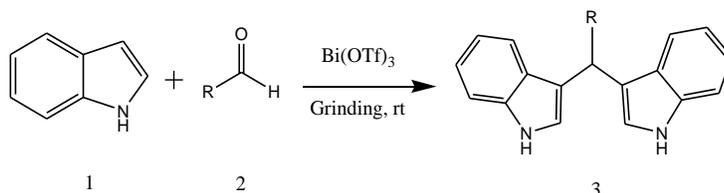
<sup>1</sup>Department of Chemistry, Dada Patil Mahavidyalaya, Karjat, Dist. Ahmadnagar- 414 402, Maharashtra, India.

<sup>2\*</sup>Department of Chemistry, Late Pundalikrao Gawali Arts and Science Mahavidyalaya, Shirpur (Jain) Dist. Washim – 444 504, Maharashtra, India.

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Bismuth triflate was found to be a mild, efficient and reusable solid acid catalyst in electrophilic substitution reaction of indoles with different aldehydes and ketones to give the corresponding bis(indolyl)methanes by using clean and environmentally benevolent grinding method. The significant sorts of this method are excellent yields of the products under solvent-free conditions, mild and inexpensive catalyst.



**Synthesis, characterisation and biological evaluation of some novel quinazoline derivatives as potential anti-microbial agents**

**K. Sudhakar Babu<sup>1</sup>, V. Prabhakar<sup>\*1</sup>, L.K. Ravindranath<sup>1</sup>, S.Shabhari Prasad<sup>2</sup>, J.Latha<sup>3</sup>**

<sup>\*1</sup> SVR Engineering College, Nandyal, A.P., India

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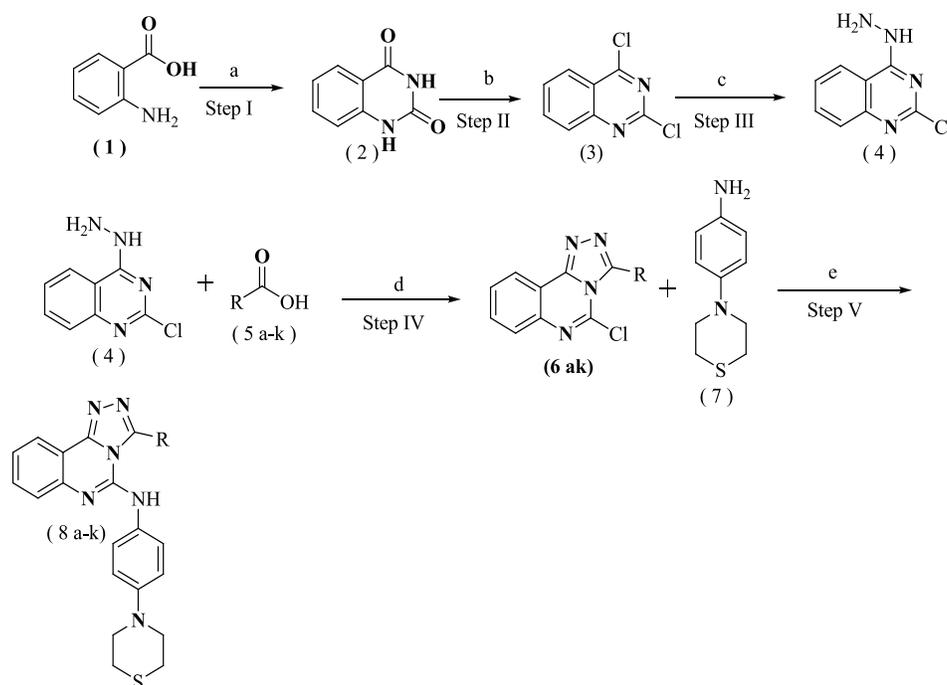
<sup>2</sup> R & D Center, BioMax Life Sciences, Loyola Degree College, Sri Yogivemana University, Kadapa, (A P) INDIA.

<sup>3</sup> Department of Environmental Science, Sri Krishnadevaraya University College of Engineering & Technology, S.K.University, Anantapuramu – 515003 (A.P) India

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In the present communication synthetic methodology involves the reaction of an anthranilic acid (1) with urea to get -2,4 dihydroxyl quinazoline (2) intermediate, which were further treated with POCl<sub>3</sub> to get 2,4 dichloro quinazoline (3) derivative. Next 2,4 dichloro quinazoline (3) reacts with hydrazine hydrate in methanol for 4 hrs to get compounds, which further reacts with different carboxylic acids in POCl<sub>3</sub>, a series of novel fused 1,2,4 triazole derivatives, which were reacts with 4-thiomorpholinoaniline (7) in acetic acid to give target compounds (8a-k) in good yields. The structures of the synthesized compounds were provided by spectral analysis, and. The synthesised compounds were tested for their antimicrobial activity against different fungi and bacteria species in vitro. The compounds are characterizes by IR, NMR, Mass analysis. Anti-bacterial and anti-fungal activities were evaluated and compared with the standard drugs, some compounds of the series exhibited promising anti-microbial and anti-fungal activity compared to standard drugs.

**Synthetic Scheme**



R = -Phenyl, -4 Methyl phenyl, -4 Methoxy phenyl, -4 Fluoro phenyl, -4 Tri fluoro phenyl, -4 Chloro Phenyl, -4 Bromo Phenyl, -4 Nitro Phenyl, -2 thiophene, -2 Indole, iso nicotinic acids.

**Reagents and Reaction conditions:** (a) Urea, 150°C, 3 hrs (d) POCl<sub>3</sub>, N-ethyl - N,N di isopropyl amine Reflux, 6 hrs (c) Methanol, Tri Ethyl Amine, 0°C-RT, 2 hrs. (d) POCl<sub>3</sub>, Reflux, 6 hrs (e) Acetic Acid, 110°C, 16 hrs

**Microwave Synthesis and Antimicrobial Influence of Some Novel 2,2'-(N-Phenylpiperidine-2,6-Diylidene)Dimalononitrile Compounds Derived from N-Phenyl Glutarimides**

Ravindra S. Dhivare<sup>1\*</sup> and Shankarsing S. Rajput<sup>2</sup>

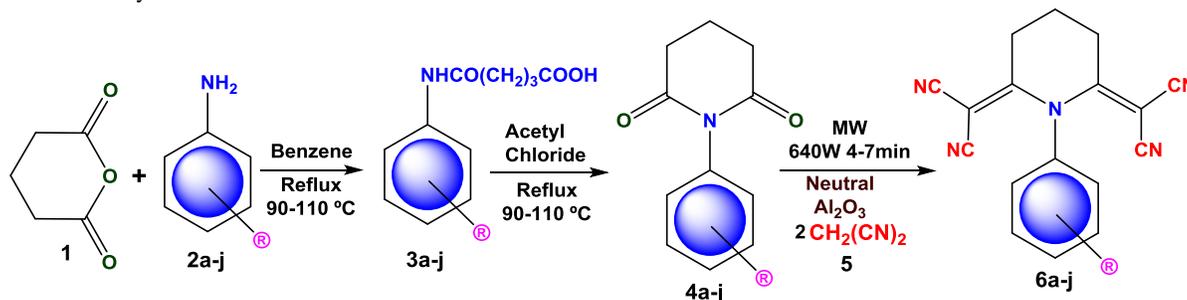
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The six membered cyclic imide derivatives were synthesized by reacting glutaric anhydride with different substituted aromatic amines underwent with acetyl chloride developed the substituted phenylpiperidine-2, 6-diones or phenyl glutarimides. Thereafter the novel malononitrile derivatives were synthesized by the treatment of the different substituted N-phenylpiperidine-2, 6-dione with dicyanomethane to get 2, 2'-(N-phenylpiperidine-2, 6-diylidene)dimalononitrile using microwave solvent-free method. All the afforded synthones were characterized screened and examined their antimicrobial activities.



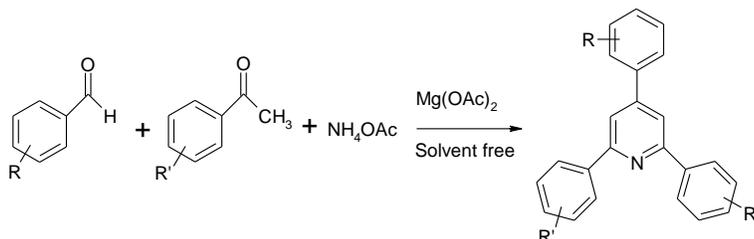
**One-Pot Synthesis Of 2,4,6-Triaryl Pyridines Using Magnesium Acetate As Organometallic Catalyst Under Solvent Free Condition.**

Vishvanath D. Patil<sup>\*</sup>, Ketan P. Patil, Nagesh.R.Sutar, Avinash T. Gatade.

<sup>a</sup>Organic Chemistry Research Laboratory, Department of Chemistry, C.K.Thakur A.C.S. College New Panvel, Raigad, Maharashtra, India

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A simple, efficient, rapid method has been developed for synthesis of 2,4,6-triarylpyridines derivatives by the condensation reaction of aromatic aldehyde derivatives acetophenone derivatives and ammonium acetate with Magnesium acetate as organometallic catalyst. This approach offers many advantages such as good product yield, short reaction time, easy isolation of products, mild reaction conditions and environmentally benign reaction conditions.



**Synthesis of imidazo[4,5-c] quinoline derivatives via Hofmann rearrangement in the presence of iodobenzenediacetate and its biological evaluation**

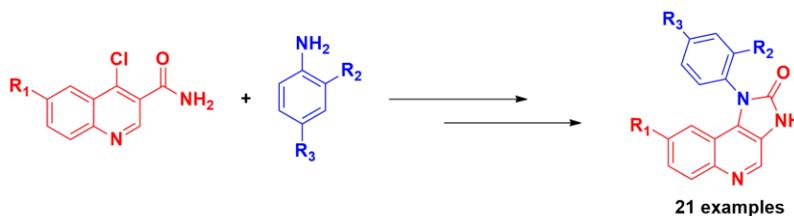
**Gaurav G. Ladani and Manish P. Patel\***

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Tel.: +91 02692 226856

Imidazo[4,5-c]quinoline derivatives are described as a new class of antimicrobial, antitubercular and antimalarial compounds.



$R_1 = \text{CH}_3, \text{Cl}, \text{F}; R_2 = \text{H}, \text{F}, \text{CF}_3; R_3 = \text{H}, \text{CH}_3, \text{OCH}_3, \text{Cl}, \text{F}$

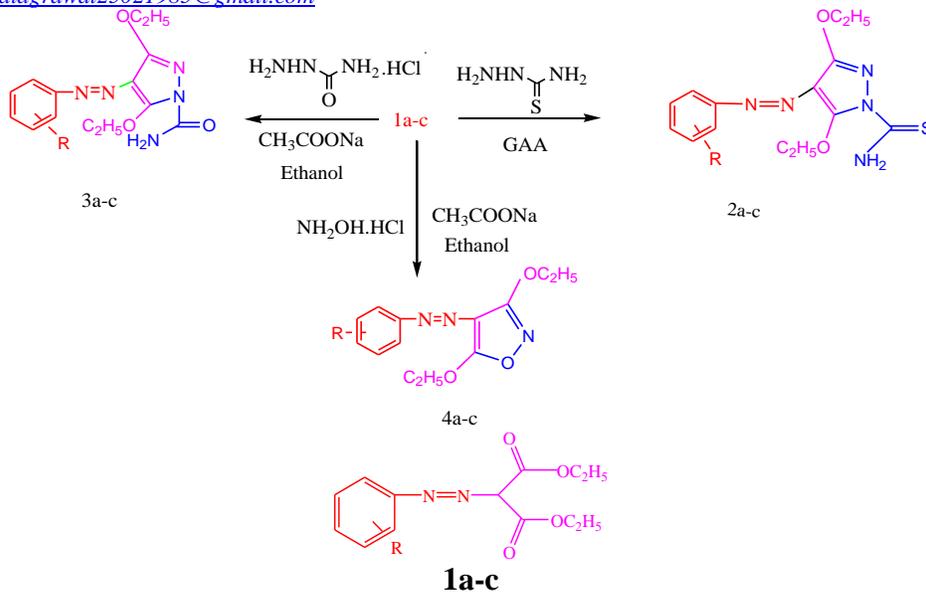
**Synthesis of 2/3/4- nitro-1-thiocarbamoyl /semicarbamoyl-3,5-diethoxy-4-(phenylazo) pyrazoles and 2/3/4-nitro-3,5-diethoxy-4- (phenylazo) isoxazoles**

**C. Agrawal<sup>1</sup>, V. Khatri<sup>1</sup> and S.Sareen<sup>2</sup>**

<sup>1</sup> Department of Chemistry, University of Rajasthan, Jaipur-302004, India

S.S.Jain Subodh P.G. Mahila Mahavidyalaya, Rambagh Circle,Jaipur.

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GAA=Glacial Acetic acid , R=2-NO<sub>2</sub>,3-NO<sub>2</sub>,4-NO<sub>2</sub>