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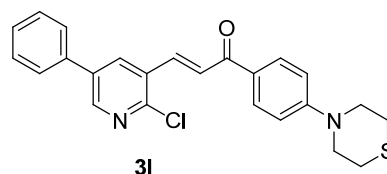
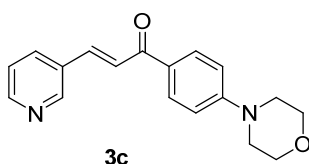
July 2020

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#### Papers

- 991 **Condensation of nicotinaldehydes with phenylethanones: A convenient synthesis and biological activities of chalcones**

Claisen-Schmidt condensation of nicotinaldehydes **1a-e** with various phenylethanones **2a-d** in the presence of base at room temperature have provided chalcones **3a-t**. All the synthesized compounds have been evaluated for their anti-microbial, free-radical scavenging and  $\alpha$ -glucosidase inhibitory activities. Compounds **3d** and **3h** have been identified as potent anti-fungal and moderate anti-bacterial agents. Compounds **3c**, **3h**, **3k-m** and **3q** have shown  $\alpha$ -glucosidase inhibitory activity.

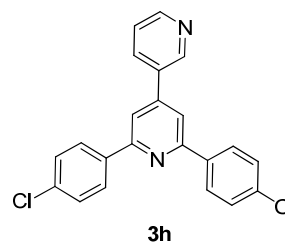
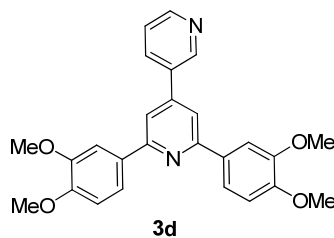


S Ramya, K Sai Teja, K S Hariprasad, G Praveena, A Zehra, A K Tiwari, R S Prakasham & B China Raju\*

Department of Organic Synthesis & Process Chemistry, CSIR-Indian Institute of Chemical Technology, Hyderabad 500 007, India

- 1001 **Condensation of nicotinaldehydes with acetophenones and NH<sub>4</sub>OAc: A convenient synthesis and biological activities of 2',6'-diphenyl-3,4'-bipyridines**

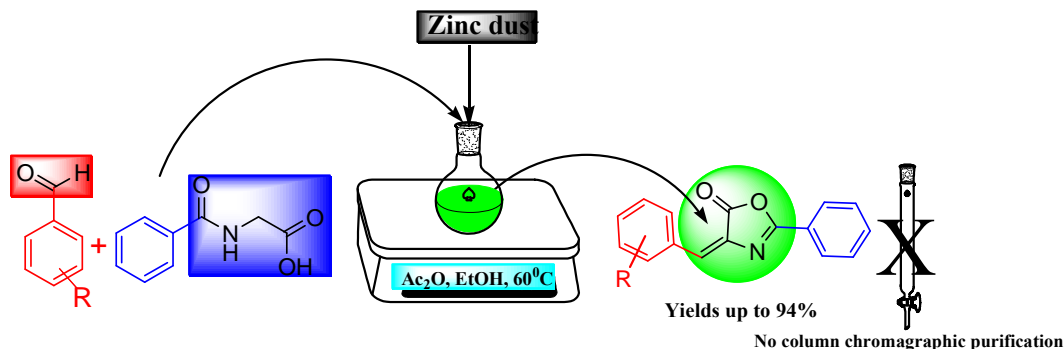
2',6'-Diphenyl-3,4'-bipyridines **3a-t** have been achieved by the three-component, one-pot reaction of nicotinaldehydes **1a-b**, acetophenones **2a-j** and anhydrous ammonium acetate under solvent free conditions at 120°C. All the prepared compounds **3a-t** have been screened for anti-microbial, free-radical scavenging and  $\alpha$ -glucosidase inhibitory activities. Compounds **3m-r** have shown anti-bacterial activity and compounds **3m-n** identified as anti-fungal agents. Compounds **3d**, **3h**, **3m** and **3r-s** have shown  $\alpha$ -glucosidase inhibitory activity.



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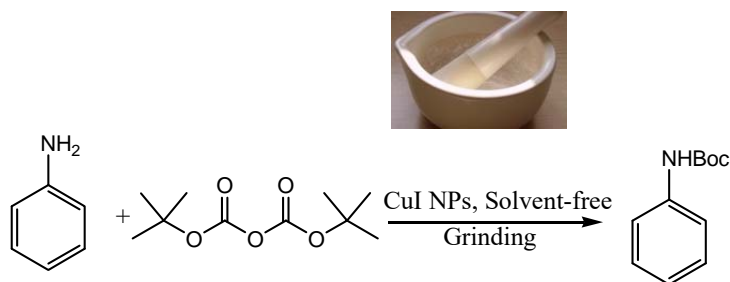
- 1010 Zinc dust catalysed efficient synthesis of 4-arylidene-2-phenyl-5(4*H*)-oxazolones** A straight forward synthesis of 4-arylidene-2-phenyl-5(4*H*)-oxazolones (also called azlactones) by the condensation of arylaldehyde with hippuric acid in the presence of acetic anhydride and zinc dust as a heterogeneous catalyst is described. The reaction proceeds rapidly, does not require any additives and has shorter reaction rate. In the present method, we have successfully applied aromatic aldehydes and hippuric acid to synthesize various substituted azlactones in good to excellent yield. The final product homogeneity is checked by FT-IR, <sup>1</sup>H and <sup>13</sup>C NMR and mass spectrometry.



**Prashant B Hiremath & K Kantharaju\***

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- 1016 CuI-NPs catalyzed mechanochemical-assisted *N*-Boc protection of organic amines** A simple, solvent-free, faster and mechanochemical approach for the preparation of *N-tert*-butoxycarbonylation of amines catalyzed by copper iodide nanoparticles as a recyclable catalyst is described. The advantages of this method are simplicity, shorter reaction time (5–15 min), a cost-effective catalyst, and excellent isolation of products (82–92%). *N*-Boc protection of various structurally diverse aliphatic, aromatic, and heterocyclic amines have been carried out with (Boc)<sub>2</sub>O with 10 mol% catalyst under pestle mortar ground in solvent-free conditions. The catalyst possesses distinct advantages, ease of handling as well as removal, cleaner reactions, high activity, and environmentally benign. The product isolated is subjected to various spectral analysis for establishing product formation.

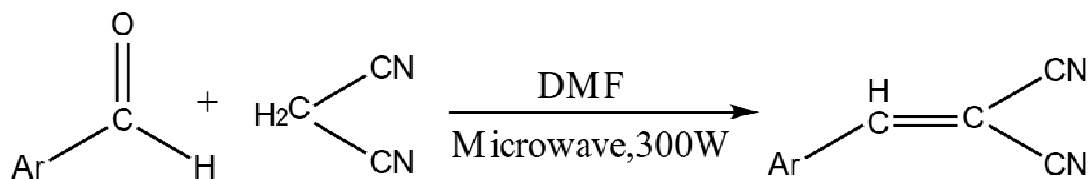


**K Kantharaju\* & Prashant B Hiremath**

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Rani Channamma University, P-B, NH-4, Belagavi 591 156, India

- 1025** Enhanced reaction rate by using N,N-dimethylformamide as a catalyst in Knoevenagel condensation

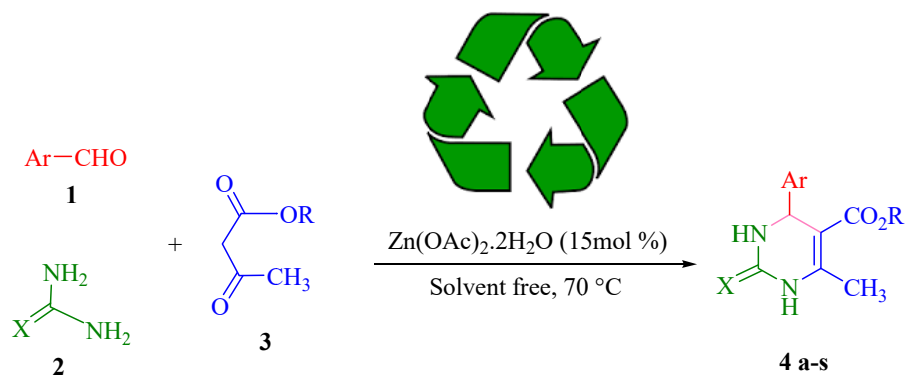
Microwave synthesis of benzylidenemalononitrile and its derivatives using N,N-dimethylformamide as a catalyst has been proven to be an efficient method of synthesis.



Swareena Jain\*, Tavleen Maidh & Madhavi Badole

Department of Chemistry, Ramnarain Ruia Autonomous College Mumbai 400 019, India

- 1030** An eco-safe and solvent-free approach for clean and one-pot synthesis of 3, 4-dihydropyrimidin-2-(1H)-one/thione derivatives using Zn(OAc)<sub>2</sub>·2H<sub>2</sub>O as an environmental friendly, readily and efficient catalyst



(Ar) **1a, 1b**=Ph; **1c**= 3-Cl-C<sub>6</sub>H<sub>4</sub>; **1d, 1e**= 4-Cl-C<sub>6</sub>H<sub>4</sub>; **1f**= 4-OH-C<sub>6</sub>H<sub>4</sub>; **1g**= 4-Me-C<sub>6</sub>H<sub>4</sub>; **1h**= N,N-di Me-C<sub>6</sub>H<sub>3</sub>; **1i, 1j**= 3-MeO-C<sub>6</sub>H<sub>4</sub>; **1k**= 4-MeO-C<sub>6</sub>H<sub>4</sub>; **1l**= 4-NO<sub>2</sub>-C<sub>6</sub>H<sub>4</sub>; **1m**= 4-F-C<sub>6</sub>H<sub>4</sub>; **1n, 1o**=2-Cl-C<sub>6</sub>H<sub>4</sub>; **1p**= 4-MeO-C<sub>6</sub>H<sub>4</sub>; **1q**= 4-F-C<sub>6</sub>H<sub>4</sub>; **1r**= 4-NO<sub>2</sub>-C<sub>6</sub>H<sub>4</sub>; **1s**= 4-OH-C<sub>6</sub>H<sub>4</sub>

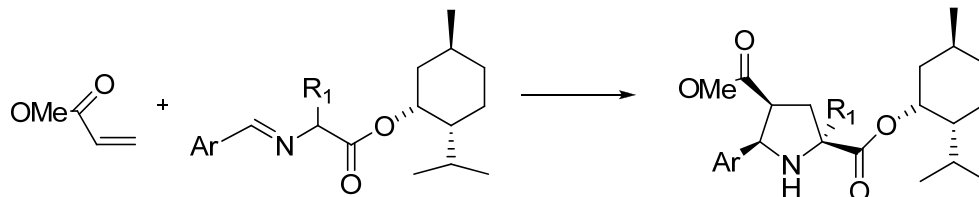
(X) **2a**= O; **2b**= S

(R) **3a**= Et; **3b**= Me

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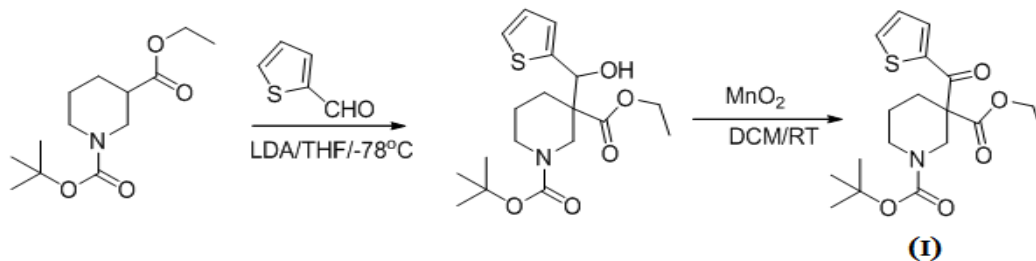
- 1039** **Asymmetric synthesis of 2,4,5- substituted prolines through 1,3-dipolar addition reaction of N-arylidene menthyl esters of  $\alpha$ -aminoacid with methyl acrylate** Proline and its derivatives constitute important organic entities as organocatalysts, ACE inhibitors, bioactive molecules/intermediates to bioactive molecules as well as components of various natural products. The 1,3-dipolar cycloaddition of Schiff bases, where chiral auxillary has been introduced in the Schiff bases and 1,3-dipolar cycloaddition with methyl acrylate leading to the synthesis of 2(S),4(S),5(R)-substituted prolines has been achieved successfully.



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- 1043** **Synthesis, FT-IR, UV-VIS, DFT studies and SCXRD structure of 1-(tert-butyl) 3-ethyl-3-(hydroxy(thiophen-2-yl)methyl)piperidine-1,3-dicarboxylate** 1-(tert-Butyl) 3-ethyl 3-(hydroxy(thiophen-2-yl)methyl)- piperidine-1,3-dicarboxylate has been synthesized and characterized by FT-IR, UV-Vis and single crystal XRD.



**V D Singh, A Uppal, Kamni, Y Khajuria, R Srinivasan, B Narayana, B K Sarojini, Sumati Anthal & Rajni Kant\***

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