

Shri. Yogeshwari Education Society's

YOGESHWARI MAHAVIDYALAYA, AMBAJOGAI

Tq. Ambajogai - 431 517, Dist. Beed (M.S.)

Estd. 29th June 1956

NAAC Re-Accredited Grade 'B'

Dr. U.D. JOSHI

Principal & Professor

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Affiliated to Dr. B.A.M. University, A'bad

Ref.No. : YMA/Jr-Sr/20 -20

Date 01/07/2019

To

The Principal,

Late Shankarrao Gutte Gramin Arts, Commerce and Science College,
Dharmapuri-431515, Parli, MS, India

Subject: Collaboration

Respected Sir

With reference to the above subject, our institution is willing to collaborate with your institution for the purpose of;

- 1) Student Exchange
- 2) Teacher Exchange
- 3) Academic Activities
- 4) Research activities

This collaboration will be for one year. Kindly convey your acceptance.

R. K. Joshi

Principal
Yogeshwari Mahavidyalaya
Ambajogai



Late Shankarrao Gutte Gramin Arts, Commerce & Science College

Dharmapuri Tq. Parli (V.) Dist : Beed. PIN : 431515 (Maharashtra)
Tel No. : 02446 - 254117, 254118, M : 9689853398 Email : principalksgcollege@gmail.com

(Affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.)

Shri - Shivaji Shankarrao Gutte
PRESIDENT J.B.S.S.

NAAC Accredited 'B' Grade
www.gutteclege.in

Dr. T.L. Holambe
M.Sc. Ph.D. (Maths.)
Principal

Ref.No. : *ksam / Acceptance / 2022-23 / 91* Date : 08/07/2019

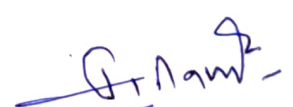
To
The Principal,
Yogeshwari Mahavidyalaya, Ambajogai,
Ta. Ambajogai, Dist. Beed (MS)

Subject: Acceptance Letter

Respected Sir,

With reference to your office letter dated 01/07/2019 our institution is accepting your invitation for collaboration and we are also willing to collaborate with your institution for the purpose of following;

- 1) Student Exchange
- 2) Teacher Exchange
- 3) Academic Activities
- 4) Research activities


Principal
Jai Bhagwan Sevabhavi Sanstha's
Late. Shankarrao Gutte Gramin
Arts, Science & Commerce College
Dharmapuri, Tq. Parli-V. Dist. Beed

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YOGESHWARI MAHAVIDYALAYA, AMBAJOGAI

Tq. Ambajogai - 431 517, Dist. Beed (M.S.)

Estd. 29th June 1956

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Affiliated to Dr. B.A.M. University, A'bad

Ref.No. : YMA/Jr-Sr/20 -20

Date 16/07/2019

To

The Principal,

Late Shankarrao Gutte Gramin Arts, Commerce and Science College,

Dharmapuri-431515, Parli, MS, India

Subject: Collaborating Activity

Respected Sir

As per the collaboration, I am giving consent to following faculty for joint publication of research article under the Research Activity.

Name of the faculty: Dr. Suresh. C. Jadhavar, (Department of Chemistry)

R. Joshi
Principal
Yogeshwari Mahavidyalaya
Ambajogai



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Shri - Shivaji Shankarrao Gutte
PRESIDENT J.B.S.S.

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Dr. T.L. Holambe
M.Sc. Ph.D. (Maths.)
Principal

Ref.No. : R S G M) collaboration / 2022-23 / 92, Date : 17/07/2019

To
The Principal,
Yogeshwari Mahavidyalaya, Ambajogai,
Ta. Ambajogai, Dist. Beed (MS)

Subject: Collaborating Activity

Respected Sir,

As per the collaboration, I am giving consent to following faculty for joint publication of research article under the Research Activity.

Name of the faculty: Dr. R. G. Momle (Department of Chemistry).

Principal

Jai Bhagwan Sevabhavi Sanstha's
Late. Shankarrao Gutte Gramin
Arts, Science & Commerce College
Dharmapuri, Tq. Parli-V. Dist. Beed

Principal



“[Hmim]HSO₄ Catalyzed An Eco-friendly Synthesis of 3-Substituted Indole Derivatives

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¹Department of Chemistry, Yogeshwari Mahavidyalaya, Ambajogai, (MS), India
²Late Shankarrao Gutte, ACS College, Dharmapuri, Parli, (MS), India

Abstract: [Hmim]HSO₄ efficiently promotes a one-pot, three-component condensation of indole, aromatic aldehyde and dimethyl malonate to produce 3-substituted indoles in good yields.

Key Words: Aromatic Aldehydes, 3-Substituted indoles, Indole, Multi-component reaction, [Hmim]HSO₄.

Introduction

Multicomponent reactions (MCRs) represent nowadays challenging frontier in synthetic organic chemistry. MCRs proved to be a very useful tool for the synthesis of structurally complex molecules, in particular natural products and in the field of drug discovery. Several examples of ‘classic’ organic processes were recently described in terms of a MCR version.^{1,2} The indole moiety is a prominent structural motif which is embodied in a myriad of natural products and molecules of pharmaceutical interest in a variety of therapeutic areas.³ They possess a wide spectrum of biological activities such as antibacterial, anticonvulsant, and antihypertensive activity.⁴ Bis-Indole-based compounds have been reported to have broad-spectrum antibacterial activities against antibiotic-resistant strains and are currently being pursued as topical agents.⁵ Hapalindole A isolated from the blue green algae Hapalosiphon fontinalis is a 3-substituted indole derivatives. It exhibits potent antibacterial and antimycotic activities.⁶ There are various report on synthesis of 3-substituted indole derivatives synthesized by Lewis acid catalysis such as Ytterbium triflate,⁷ PMA-SiO₂,⁸ Yb(OTf)₃-SiO₂,⁹ Bromodimethylsulfonium bromide,¹⁰ FeCl₃,¹¹ InCl₃,¹² and AgOTf¹³ much attention has been paid to the synthesis of them for a long while.