Website address: www.niscair.res.in; http://nopr.niscair.res.in

Indian Journal of Chemistry

Sect. B: Organic Chemistry including Medicinal Chemistry

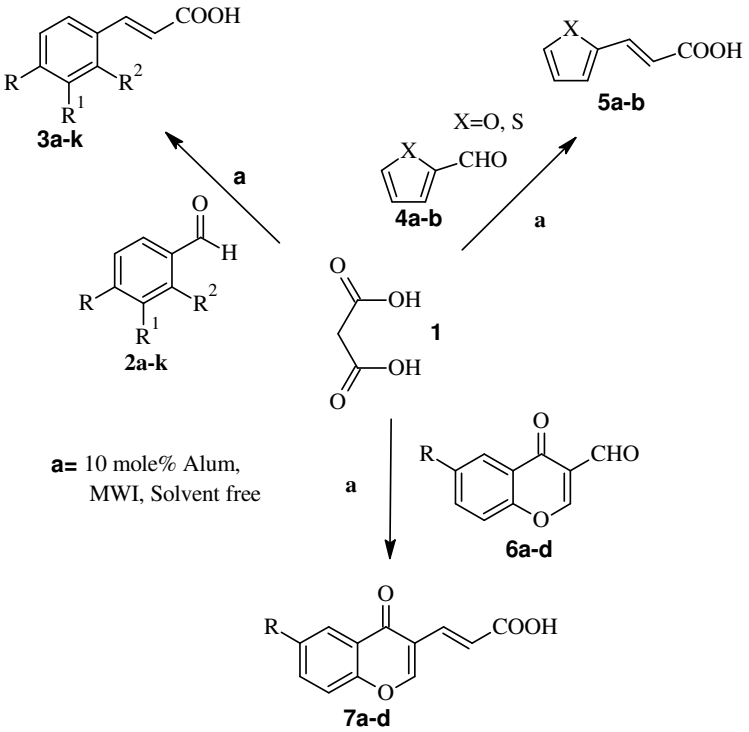
VOL. 50B **NUMBER 10** **October 2011**

CONTENTS

Papers

1479 **Alum [$KAl(SO_4)_2.12H_2O$]: An efficient, novel, clean, catalyst for Doebner Knoevenagel reaction for the efficient production of αβ-unsaturated acids**

Alum mediated solvent free, microwave enhanced, clean process for the production of αβ-unsaturated acids **3, 5** and **7** is described. Only 10 mol% of alum is enough in this protocol to achieve optimal yields and this protocol is fairly general and applicable to heterocyclic aldehydes and benzopyran 3-aldehydes.

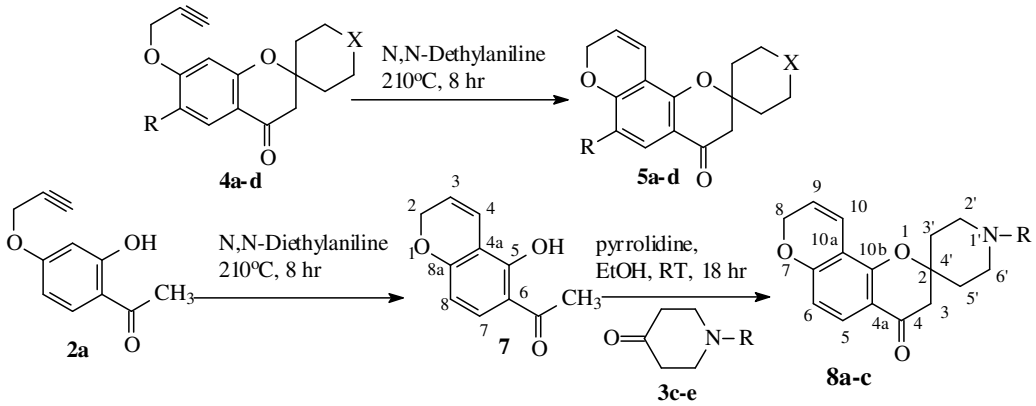


Suresh, Dhruva Kumar & Jagir S Sandhu*

Department of Chemistry, Punjabi University, Patiala 147 002, India

1484 Synthesis and antibacterial activity of some new spiro[pyrano[2,3-*f*]chromen-2,1'-cycloalkan]-4-ones and 1'-alkylspiro[pyrano[2,3-*f*]chromen-2,4'-piperidin]-4-ones

Claisen rearrangement of 7-propargyloxyspirochromanones in *N,N*-diethylaniline affords spiro[pyrano[2,3-*f*]chromen-2,1'-cycloalkan]-4-ones **5a-d**, while 1'-alkylspiro[pyrano[2,3-*f*]chromen-2,4'-piperidin]-4-ones **8a-c** can be synthesized by Claisen rearrangement of 4-propargyloxyresaectophenone **2a** followed by cyclization using N-subsituted piperidones in ethanol-pyrrolidine. All the compounds have been tested *in vitro* for their antibacterial activity against Gram-positive bacteria *Bacillus subtilis* and *Staphylococcus aureus* and Gram-negative bacteria *Escherichia coli* and *Pseudomonas aeruginosa*. Some of the compounds show moderate to good antibacterial activity.

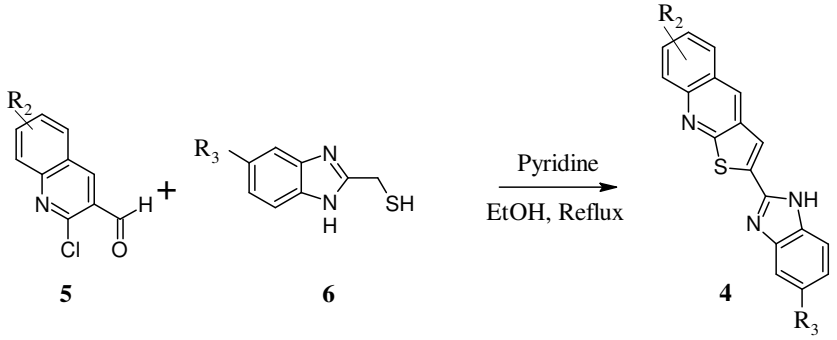


P Sreenivas, S Satyanarayana Reddy, Y Jayaprakash Rao, Ch Prasada Rao & G L David Krupadanam*

Department of Chemistry, Osmania University, Hyderabad 500 007, India

1491 Synthesis, characterization and antibacterial activity of benzimidazole derivatives carrying quinoline moiety

A new series 2-(1*H*-benzimidazol-2-yl)-6-substitutedthieno[2,3-*b*]-quinolines **4** have been synthesized by the substitution reaction of 2-mercaptoquinoline-3-carbaldehyde **1** with 2-(chloromethyl)-1*H*-benzimidazole **2**. However, the yield obtained by this method is less than 50%. A successful attempt has been made to improve the yield (>85%) by condensing 2-chloroquinoline-3-carbaldehyde **5** with 2-(mercaptomethyl)-1*H*-benzimidazoles **6** in ethanol medium using pyridine as base.

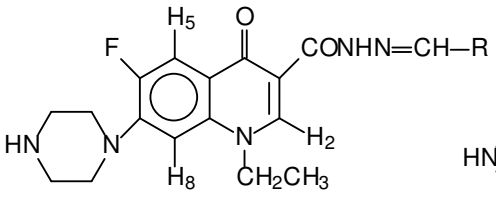


Janardhana Gowda, A M A Khader*, Balakrishna Kalluraya & Syed Hidayathulla

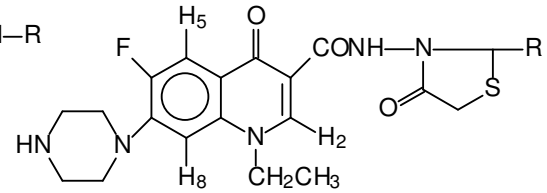
Department of Studies in Chemistry, Mangalore University, Mangalagangotri 574 199, India

1496 Synthesis and antimicrobial activity of thiazolidinone norfloxacin hybrids

A new series of 1-ethyl-6-fluoro-7-piperazinyl-4-oxo-3-(2′-substitutedaryl-4′-oxo-1′,3′-thiazolidin-3′-yl)aminocarboxyquinolines **8-12** have been synthesized in order to determine their antibacterial and antifungal activities. 1-Ethyl-6-fluoro-7-piperazinyl-4-oxo-3-[2′-(*o*-methoxyphneyl)-4′-oxo-1′,3′-thiazolidin-3′-yl)amino carboxyquinoline **10** has displayed more potent antibacterial activity as compared to standard drug.



3-7



8-12

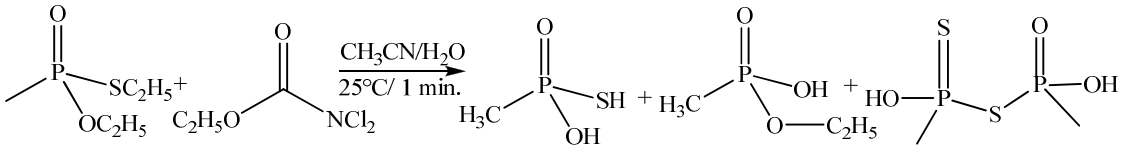
Vikas Kumar, Ashok Kumar, Shalabh Sharma* & Netra Pal Singh

Medicinal Chemistry Division, Department of Pharmacology, L.L.R.M. Medical College, Meerut 250 004, India

Note

1504 Detoxification of *O,S*-diethyl methyl phosphonothiolate (OSDEMP), a simulant of VX, by *N,N*-dichlorourethane as an effective decontaminating agent

N,N-Dichlorourethane has been synthesized and characterized by FT-IR and NMR. Efficiency of this compound as decontaminant has been evaluated by the reaction of *O,S*-diethyl methyl phosphonothiolate (OSDEMP), a simulant of VX at room temperature. The decontamination reaction has been monitored by gas chromatography (GC) and the products are identified by GC-MS.

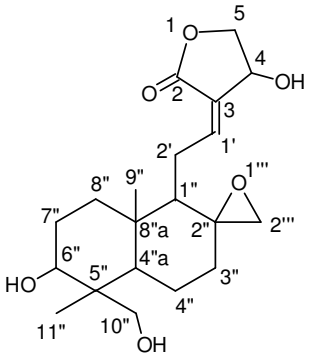


Ravindra Singh, P K Gutch*, J Acharya & S Prabha

Synthetic Chemistry Division, Defence R & D Establishment, Jhansi Road, Gwalior 474 002, India

1510 A new clerodane-type γ-hydroxybutenolide diterpene from the bark of *Polyalthia longifolia* var. *angustifolia*

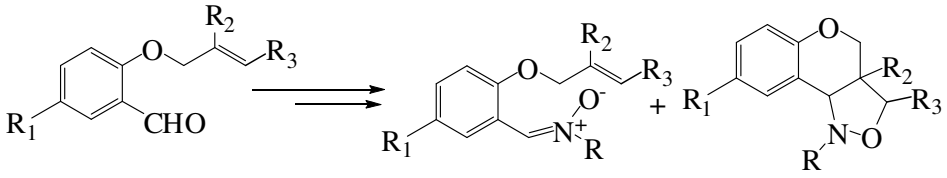
A new clerodane-type γ-hydroxybutenolide diterpene has been isolated from the 50% ethyl acetate in *n*-hexane fraction of methanolic extract of the bark of plant, *Polyalthia longifolia* var. *angustifolia*. The structure of the new compound has been established as (*Z*)-4-hydroxy-3-(2″-(6″-hydroxy-5″-(hydroxylmethyl)-5″,8″a-dimethyloctahydro-1*H*-spiro[naphthalene-2″,2‴-oxiran]-1″-yl)ethylidene)dihydrofuran-2(3*H*)-one, based on the chemical and spectral (UV, IR, ^{1}H, ^{13}C, 2D-NMR and Mass) data analysis.



G Ghosh*, B B Subudhi, M Banerjee & S K Mishra

School of Pharmaceutical Sciences, S 'O' A University, Kalinga Nagar, Bhubaneswar 751 003, India

1513 Preparation of nitrones and studies of their intramolecular 1,3-dipolar cycloaddition reactions



Brindaban Roy* & Rajendra Narayan De

Department of Chemistry, University of Kalyani, Kalyani 741 235, India

1519 Microwave assisted one pot synthesis of pyrazine derivatives of pentacyclic triteprenoids and their biological activity

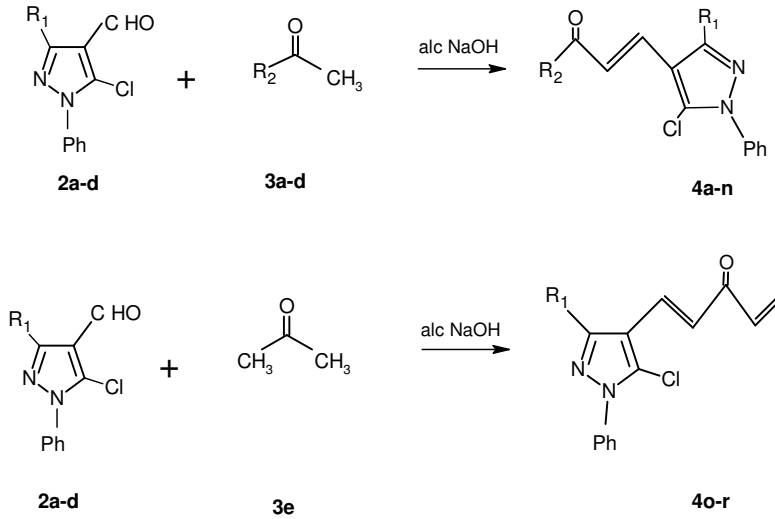
One pot synthesis of 1,4-pyrazine derivative of pentacyclic triterpene has been carried out under microwave irradiation and the antimicrobial potential associated with them has been evaluated.

Pranab Ghosh*, Md. Golam Rasul, Madhumita Chakraborty, Amitava Mandal & Aniruddha Saha

Natural Product and Polymer Chemistry Laboratory, Department of Chemistry, University of North Bengal, Darjeeling, 734 013, India

1524 Synthesis of some 3-(5-chloro-1,3-diaryl-1*H*-pyrazol-4-yl)-1-arylprop-2-en-1-ones and 1,5-bis(5-chloro-1,3-diaryl- 1*H*-pyrazol -4-yl)pent-1,4-diene-3-ones and their antimicrobial activity

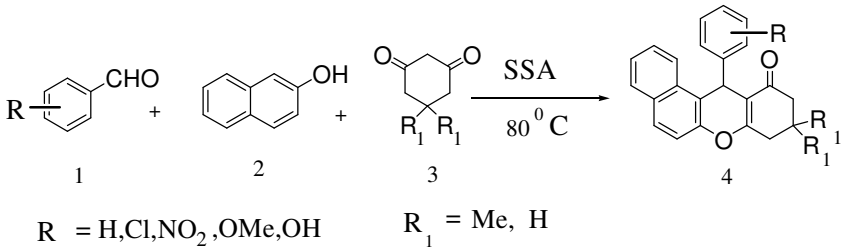
3-(5-Chloro-1,3-diaryl-1*H*-pyrazol-4-yl)-1-arylprop-2-en-1-ones (**4a-n**) and 1,5-bis(5-chloro-1,3-diaryl- 1*H*-pyrazol -4-yl)pent-1,4-diene-3-one (**4o-r**) have been synthesized. The compounds have been screened against plant pathogenic fungi and human pathogenic bacteria. Regression analysis has also been done.



Archna Rani*, Sapna Jain, Prem Dureja, Rita Kumar & Anil Kumar

Department of Applied Chemistry, Delhi College of Engineering (Now Delhi Technological University), Bawana Road, Delhi 110 042, India

1532 Heterogeneous catalyst: Silica sulfuric acid catalyzed synthesis of 9, 10-dihydro-12-aryl-8*H*-benzo[*α*]xanthen-11(12*H*)-one derivatives under solvent-free conditions



G M Nazeruddin*, Mahesh S Pandharpatte & Khudbudin B Mulani

Department of Chemistry (P.G. Centre), Poona College of Arts, Science & Commerce, Pune 411 001, India

Authors for correspondence are indicated by (*)