CONTENTS

Rapid Communication

1 First synthesis of indane-based \( \alpha \)-amino acid derivatives with a crown ether side chain
First synthesis of indane-based unusual \( \alpha \)-amino acid derivatives with a crown ether unit are reported using commercially available benzocrown ethers and ethyl isocyanocetate as a glycine equivalent.

Sambasivarao Kotha* & Enugurthi Brahmachary

Papers

5 Synthesis of macrocycles derived from vanillin and isovanillin
Using vanillin and isovanillin, thia (6 and 11) and aza (7 and 12) bridged macrocycles have been synthesized via a common approach.

Sukeerthi Kumar & Sabir H Mashraqui*

11 Reactivity of \( 3,5 \)-diaryl cyclohexanone—Synthesis of spiro cyclohexanes
Spiro cyclohexanoxirane 2, spiro cyclohexanocyclopropane 4, spiro cyclohexanothiirane 5 and spiro cyclohexanoaziridine 6 have been prepared from \( 3,5 \)-diaryl cyclohexanone 1.

V Padmavathi, K Sharmila, A Somasekhar Reddy & D Bhaskar Reddy*

(i)

INDIAN J CHEM, 40B (1) 2001
15 Synthesis of 1,3,4-thiadiazole, 1,2,4-triazole and 1,3,4-oxadiazole derivatives containing 1-(p-chlorophenyl)-5-methyl-1,2,3-triazol-4-yl moiety

Xiao-Wen Sun, Xin-Ping Hui, Chang-Hu Chu & Zi-Yi Zhang

20 Preparation of isomeric hydrazones: Role of lone electron pair of nitrogen in controlling the stability

Alaka Srivastava, Vandana Srivastava, Shiva M Verma & Anil K Saxena

25 Cyclic voltammetric investigation of the 6-keto 9-17 mono methyl substituted octadecanoic acids

S Erturan*, M Yalçın & S Tanyolaç

The oxidation potentials of the 6-keto 9-17 mono methyl substituted octadecanoic acids are determined. The effects of keto and methyl substituents on oxidation potentials are investigated, and the kinetics and mechanism of reaction are established.

(iii) INDIAN J CHEM, 40B (1) 2001
Kinetics and mechanism of the nucleophilic substitution reactions of 2-chloro-1-methylpyridinium iodide with primary and secondary amines

Rate constants for the title reactions have been determined. The overall reaction is found to be second order. A two-step reaction mechanism is consistent with the observed results in which the formation of an intermediate is believed to be rate determining.

\[
\begin{align*}
\text{CH}_3\text{C} & \quad \text{+ NHR}_1\text{R}_2^- \rightarrow \text{CH}_3\text{C}^-\text{NR}_1\text{R}_2 \\
(i) & \quad \text{R}_1 = \text{H, R}_2 = \text{Me, Et, Pr, Bu} \\
(ii) & \quad \text{R}_1 = \text{Me, R}_2 = \text{Me} \quad \text{and} \\
(iii) & \quad \text{R}_1 = \text{Et, R}_2 = \text{Et}
\end{align*}
\]

A Awwal, M Kabir*, M Enamullah, D Hossain & M M Morshed

Synthesis of some new thiouracil derivatives with expected biological activity

Several 5-substituted thiouracil derivatives have been prepared from 2-thiouracil-5-sulphonyl chloride.

\[
\begin{align*}
\text{CO-N-N} & \quad \text{(III)} \\
\text{Ph} & \quad \text{CHO}
\end{align*}
\]

O A Fathalla

Synthesis and antibacterial activity of pyrazole and 1,3,4-oxadiazole derivatives of 2-phenyl-1,8-naphthyridine

Synthesis and characterization of some new 1,8-naphthyridinyl pyrazoles 3, 4, 6 and 1,3,4-oxadiazoles 8 starting from a useful synthon 2-phenyl-1,8-naphthyridine-3-carboxylic acid hydrazide 2 has been reported. Some of the compounds exhibit significant antibacterial activity.

\[
\begin{align*}
\text{3} & \quad \text{4} \\
\text{6} & \quad \text{8}
\end{align*}
\]

K Mogilaiah*, D Srinivasa Chowdary & R Babu Rao

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CONTENTS

49 Synthesis and fungicidal activity of 3,6,9-triaryl-2-thioxo-1,3,4-oxadiazolo[4,5-d][1,3,4]oxadiazolo[2,3-b]pyrimidine and 3,10-diaryl-2-thioxo-1,3,4-oxadiazolo[4,5-d]pyrimido[2,1-b]pyrimidines

The synthesis of 4 and 6 have been accomplished by treating 5-mercapto-3-p-(t-butylphenyl)-s-triazole 2 and 2-p-(t-butylphenyl)-3-thiosemicarbazide 1 independently with α-haloketones to produce uncyclized ketones which undergo cyclization with PPA and POCl₃ respectively to furnish 4 and 6.

Nizamuddin*, Madhulika Mishra, Manoj Kumar Srivastava & Mukhtar Hussain Khan

54 Heterocyclic systems containing bridgehead nitrogen atom: Synthesis and bioactivity of thiazolo[3,2-b]-s-triazoles and isomeric thiazolo[2,3-e]-s-triazoles

The synthesis of 4 and 6 have been accomplished by treating 5-mercapto-3-p-(t-butylphenyl)-s-triazole 2 and 2-p-(t-butylphenyl)-3-thiosemicarbazide 1 independently with α-haloketones to produce uncyclized ketones which undergo cyclization with PPA and POCl₃ respectively to furnish 4 and 6.

Jag Mohan* & Anupama

57 Synthesis of pyrazolines and cyanopyridines as potential antimicrobial agents

Reaction of chalcones with hydrazine hydrate under different conditions and malononitrile leads to the formation of pyrazolines 3a-p, 3'a-p and cyanopyridines 4a-p respectively. The compounds have been evaluated in vitro for antimicrobial activity and antimonycobacterial activity.

Akhil H Bhatt, H H Parekh, Khyati A Parikh & A R Parikh*

(iv) INDIAN J CHEM, 40B (1) 2001
New 2-(2-arylvinyl)-7-substituted-quinazolin-4(3H)-ones. Synthesis, reactions and antimicrobial activity

Syntheses of quinazolines 4, 5 and 6 starting from 3 have been reported.

![Chemical structures](image)

S El-Meligie*, A K El-Ansary, M M Said & M M M Hussein

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Notes

Zinc promoted rapid and efficient synthesis of Fmoc- and Z-α,α-dialkylamino acids under neutral conditions

The introduction of Nδ-9-fluorenylmethyloxycarbonyl (Fmoc) and benzylxocarbonyl (Z) groups into α,α-dialkylamino acids is described at neutral pH using Fmoc-Cl or Z-Cl as an acylating agent respectively in the presence of activated zinc powder. The reaction is simple, fast and clean. It also permits the scale up with high yields.

Zinc dust

(dissolved in acetonitrile)

H₂N-CR₁R₂-COOH + X-Cl

(neutral pH)

X = Z or Fmoc group

Vommina V Suresh Babu* & Kuppanna Ananda

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Zinc-catalyzed ammonium formate reductions: Rapid and selective reduction of aliphatic and aromatic nitro compounds

Aliphatic and aromatic nitro compounds are rapidly and selectively reduced to corresponding amino derivatives in high yields by using ammonium formate or formic acid with commercial zinc dust.

H₂N / Zn, MeOH or HCOOH / Zn, MeOH; r.t.

D Channe Gowda*, B Mahesh & Shankare Gowda

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INDIAN J CHEM, 40B (1)2001
78 Synthesis of 9,9'-bisacridinediones

Reaction of octaketone 3 with ammonium acetate/amine furnishes the 9,9'-bisacridinediones 4a-c. The bixanthrene 5, prepared from octaketone 3, on treatment with ammonium acetate/methylamine gives 4a/4b.

P Murugan & V T Ramakrishnan

82 Synthesis and pharmacological studies of new derivatives of dimethyl 1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylate

A new series of 1,4-dihydropyridine derivatives has been prepared by the incorporation of an amino unit. Amimonethylene group is attached to the aryl ring at C4 of the 1,4-dihydropyridine ring. The hydrochlorides of the compounds are tested for their biological activity.

B M Khadilkar*, H G Jaisinghani, M N Saraf & S K Desai

87 Zederone: A sesquiterpenic keto-dioxide from Curcuma aromatica

Phytochemical analysis of the rhizomes of Curcuma aromatica Salisb. (Zingiberaceae) leads to the isolation and structural elucidation of a sesquiterpenoid named zederone, which shows moderate antifeedant activity against 4th instar larva Spilarthra obliqua.

Neerja Pant, D C Jain*, R S Bhakuni, Veena Prajapati, A K Tripathi & S Kumar

Authors for correspondence are indicated by (*)