CONTENTS

Advances in Contemporary Research

550 InCl₃ in organic syntheses

A review on the use of InCl₃ in organic syntheses has been described.

Rina Ghosh

Papers

558 Synthesis of novel 2,6-disubstituted-3-amino-4-trifluoromethylfuro[2,3-b]pyridines

A series of novel 2-acyl or benzoyl-3-amino-4-trifluoromethyl-6-substituted furo[2,3-b]pyridines have been synthesised from 4-trifluoromethyl-6-substituted-1,2-dihydro-2-oxo-3-pyridine carbonitrile via 2-O-phenacyl or acetonil-3-cyano-4-trifluoromethyl-6-substituted pyridines.

\[
\begin{align*}
\text{CF}_3 & \quad \text{CN} \\
\text{R} & \quad \text{R} \\
\text{N} & \quad \text{N} \\
\hline
\text{O} & \quad \text{O} \\
\text{C} & \quad \text{C} \\
\end{align*}
\]

K Srinivas, B Narasiah*, P Shanthan Rao & J Madhusudana Rao

565 Studies on the syntheses of 2-phenylsulphonyl-3-styrylquinoxaline

2-Phenylsulphonyl-3-styrylquinoxaline 6 has been prepared by the reaction of sodium benzenesulphinate with the corresponding 2-chloro-3-styrylquinoxaline 4. An alternate method for the preparation of 6 from 2 through the intermediacy of 7 is also described.

V S H Krishnan, K S Chowdary, P K Dubey* & S Vijaya
Selective solvomercuration of dienes: Synthesis of olefinic mercuric chlorides, iodides and hydroxides

Navdeep Kaur & Ranjit S Dhillon

One pot selective solvomercuration of dienes using mercuric acetate in dry MeOH followed by, in situ, treatment with NaCl or KI or NaOH of mercurinum intermediate at 0°C afford, in good yields, the olefinic mercuric chlorides, iodides and hydroxides, respectively.

\[
\begin{align*}
R\text{CH}=&\text{CH}_2 \quad \rightarrow \quad R\text{-OH}\text{-CH}_2\text{-HgY} \\
Y = &\text{OH, I, Cl}; \quad R = \text{alkene}
\end{align*}
\]

Tetraethylammonium bromide catalysed phase transfer reaction of potassium superoxide with hydrazones and tosylhydrazones

Various hydrazones and tosylhydrazones on reaction with potassium superoxide in the presence of tetraethylammonium bromide are efficiently transformed to azines or olefins in fairly good yields.


3,3-Diethyl-2H,4H-thiazolo[3,2-b]-s-tetrazin-6(7H)-one 2, 3,3-diethyl-2H,4H-6,7-dihydrothiazolo[3,2-b]-s-tetrazine hydrobromide 4 and 6-aryl-3,3-diethyl-2H,4H-thiazolo[3,2-b]-s-tetrazine hydrobromide 5 have been synthesised by the reaction of 6,6-diethyl-1,2,4,5-tetrahydro-s-tetrazin-3-thione 1 with chloroacetic acid, 1,2-dibromoethylene and α-haloethanes, respectively.

Jag Mohan
QSAR with electrotopological state atom index: Part II — Antimalarial activity of dihydroqinghaosu derivatives

Quantitative Structure Activity Relationship study and antimalarial activity of some ester and ether derivatives (AR1-AR21) of dihydroqinghaosu (dihydroartemisinin) with electrotopological state atom index reveals the importance of the oxygen atoms (including those of the peroxide bridge) of artemisinin skeletal ring structure and the lactol oxygen for the activity. The results are in good agreement with the previous reports on the pharmacophoric requirements of artemisinin analogs obtained by other QSAR techniques.

Kunal Roy*, Dipak Kumar Pal, Achintya Saha & Chandana Sengupta

Justicia lignans: Part 9 — Two new lignans from Justicia neesii Ramamoorthy (white flower variety)

Two new lignans (1 and 2) have been isolated from J. neesii and characterised by spectral data and chemical transformations. 2 is the first neolignan from Justicia species.

Kovuru Gopalaiah, Jakka Kavitha, Raju V Kanumuri, Doddra Rajasekhar & Gottumukkala V Subbaraju*

Notes

Synthesis of novel pyrazolino[4',3':6,7]-cyclohept[b]indoles

Treatment of 2-benzylidene-1-oxo-1H-2,3,4,5-tetrahydrocyclohept[b]indole derivatives 1a-e with hydrazine hydrate affords the pyrazolino[4',3':6,7]cyclohept-[b]indoles 2a-e.

C Kavitha & K J K J Rajendra Prasad*

INDIAN J CHEM, 40B (7) 2001
603 Studies on the synthesis of 6-(substituted pyridyl)-2H-[1,4]benzoxazin-3(4H)-one derivatives

Condensation of 2 with a variety of chalcones 3 gives 6-(substituted pyridyl)-2H-[1,4]benzoxazin-3(4H)-one 4. Formation of 4 from 2 is explained mechanistically. Studies on alkylation of 4a to obtain 5 is also described.

V S H Krishnan, K S Chowdary, P K Dubey*, A Naidu & S Vijaya

608 Synthesis of 2,6-dimethyl-4-substituted pyridine-3,5-dicarbonitriles from β-aminoacrylonitriles

2,6-Dimethyl-4-substituted pyridine-3,5-dicarbonitriles 2a-c have been obtained from β-aminoacrylonitriles and aldehydes. Condensation of 2a-b with DMF/DMA affords β,N-dimethylaminobenzaldehyde 8a-c.

F Al-Omran* & A A EI-Khair

612 Synthesis of triazones in aqueous media under microwave irradiation

Three component condensation of N,N'-dimethylurea, aqueous formaldehyde and primary amines under microwave irradiation leads to triazones 4 in high yields.

Saeed Balalaie* & Arash Shokrollahi
Synthesis of C₇-C₁₆-alkyl glycosides. Part 1 — Synthesis of alkyl D-xylopyranosides in the presence of tin(IV) chloride as a Lewis acid catalyst

The Lewis acid catalyzed glycosylation reaction of β-peracetylated sugar derivative (xylose) with fatty alcohols is used in a synthesis of C₇-C₁₆-alkyl xylopyranosides. The process occurs under the influence of tin(IV) chloride.

Stanimir Konstantinovic, Zorica Petrovic, Aleksandra Spasojevic & Biljana Mojsilovic

Hypervalent iodine mediated solid state synthesis of 1,8-naphthryridinyl-1,3,4-oxadiazoles

An efficient and convenient conversion of acylhydrazones 2 to 1,3,4-oxadiazoles 3 using iodobenzene diacetate (IBD) in the solid state is described.

K Mogilaiah* & P Raghotham Reddy

Reductions using LiCl/NaBH₄

A practical and novel reagent system LiCl/NaBH₄ is used for the reductive cleavage of organic disulfides to mercaptans under mild conditions in excellent yields.

S Raja Ram, K Purushothama Charry & D S Iyengar*

Pd(II)-promoted base hydrolysis of 2-cyano-1,10-phenanthroline

Pd(II)-promoted base hydrolysis of 2-cyano-1,10-phenanthroline has been studied. The reaction is first order each in metal-substrate complex and in hydroxide ion. The mechanism of metal-catalysed addition involves one step external attack rather than attack by nucleophile from the metal coordination sphere.

S Ghammami, S Derakhshan, A R Mahjoub & A Soudi*
Some unusual observations in the synthesis of benzofuran based nor-neolignan

Atulya K Panda & M R Parthasarathy*

Micelle catalysed methylene blue reduction by ascorbic acid: A procedure for the determination of vitamin C in pharmaceutical samples

Kaushik Mallick, Anjali Pal & Tarasankar Pal*

Synthesis and antimicrobial study of heterocyclyl substituted s-triazoles, 1,3,4-thiadiazoles, oxadiazoles and related heterocycles

A M Dhiman, K N Wadodkar* & S D Patil

Attempted synthesis of 1 involving Vilsmeier-Haack reaction leads to the product 8. The unusual observations encountered during this have been recorded.

![Chemical structures](image)

A simple, cost-effective and direct determination of ascorbic acid (vitamin C) in pharmaceutical preparations is reported using cationic micelle (CTAB) immobilised methylene blue as the reagent.

![Chemical structures](image)

Synthesis of various heterocycles 3,4,5,6 and 7 are described from substituted thiosemicarbazides 2. Some of these reported heterocycles are assayed for their antibacterial activity.

![Chemical structures](image)
640 Synthesis and antimicrobial study of some bridgehead nitrogen heterocycles

3-Substituted-4-amino-5-mercapt-1,2,4-triazoles 2a-d are subjected to the action of various reagents to get some different bridgehead nitrogen heterocycles, such as 3a-d, 4a-d, 5a-d and 6a-d. All these reported compounds have been screened for their bactericidal nature.

A M Dhiman, K N Wadodkar* & S D Patil

644 Two new limonoids from Polygonum orientale L.

Isolation and identification of two new limonoids polygonum A 3 and polygonum B 4 from Polygonum orientale L.

Jiaming Liu

Authors for correspondence are indicated by (*)