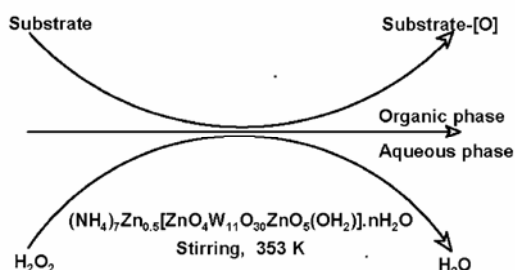


CONTENTS

A water soluble heteropolyoxotungstate as a selective, efficient and environment friendly oxidation catalyst

Prasenjit Maity, Double Mukesh, Sumit Bhaduri and Goutam Kumar Lahiri 377–385

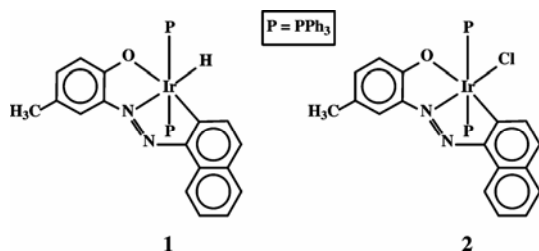
A water-soluble Keggin-type heteropolyoxotungstate $(\text{NH}_4)_7\text{Zn}_{0.5}[\alpha\text{-ZnO}_4\text{W}_{11}\text{O}_{30}\text{ZnO}_5(\text{OH}_2)] \cdot n\text{H}_2\text{O}$ (**1**), has been found to be an excellent catalyst for the selective oxidation of pyridine derivatives, organic sulfides, benzyl halides, benzyl alcohols and anilines by aqueous hydrogen peroxide in an aqueous biphasic reaction media.



Iridium mediated phenolic O–H activation and cyclometalation of 2-(naphthyl-1'-azo)-4-methylphenol – Formation of organoiridium complexes

Rama Acharyya, Shie-Ming Peng, Gene-Hsiang Lee and Samaresh Bhattacharya 387–395

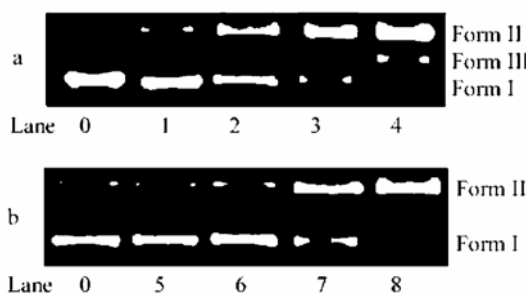
Reaction of 2-(naphthyl-1'-azo)-4-methylphenol with $[\text{Ir}(\text{PPh}_3)_3\text{Cl}]$ in boiling ethanol in the presence of a base (NEt_3) affords an organoiridium complex **1**. A similar reaction carried out in toluene affords complex **1** along with a similar complex **2**. Structures of both the complexes have been determined by X-ray crystallography.



Synthesis, DNA-binding and photocleavage studies of Ru(II) complexes of phenyl-(4,5,9,14-tetraaza-benzo[b]triphenylen-1,1-yl)-methanone

Li-Feng Tan, Xue-Jiao Chen, Jian-Liang Shen and Xi-Ling Liang 397–405

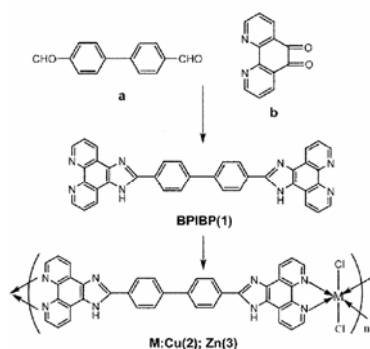
Photoactivated cleavage of pBR 322 DNA in the presence of complexes **1** and **2**, light after 30 min irradiation at 365 ± 5 nm. Lanes 0, DNA alone; lanes 1–4 in the different concentrations of complex **1**: (1) 5; (2) 10; (3) 15; (4) 20 μM ; lanes 5–8, in the different concentrations of complex **2**: (1) 5; (2) 10; (3) 15; (4) 20 μM .

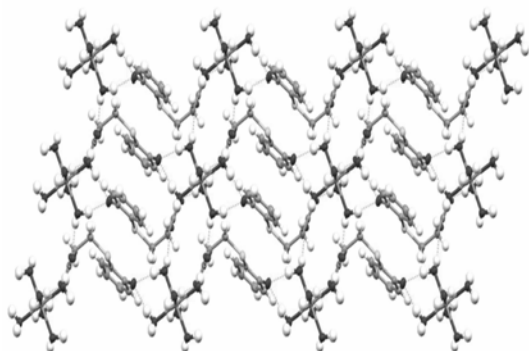


Synthesis and luminescent properties of novel Cu (II), Zn (II) polymeric complexes based on 1,10-phenanthroline and biphenyl groups

Yan He, Chaofan Zhong, Yu Zhou and Hailiang Zhang 407–412

The ligand BPIBP was synthesized by the reaction of 1,10-phenanthroline-5,6-dione with 4,4'-diformylbiphenyl through imidazole ring preparation. The polymeric metal complexes Cu (II), Zn (II), BPIBP have good luminescent properties and thermal stability.

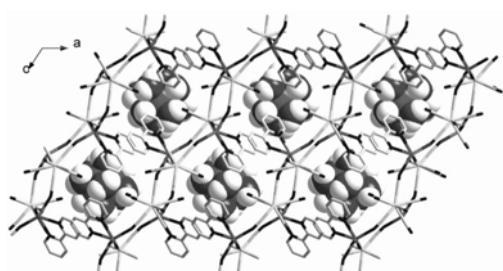




Supramolecular network formed through O–H...O and π – π stacking interactions: Hydrothermal syntheses and crystal structures of $M(H_2O)_6(optp)_2$ ($M = Mg, Ni, Zn$, and $optp = 1$ -oxypyridinium-2-thiopropionate)

Murugan Indrani, Ramasamy Ramasubramanian, Frank R Fronczek, Dario Braga, N Y Vasanthacharya and Sudalaiandi Kumaresan 413–420

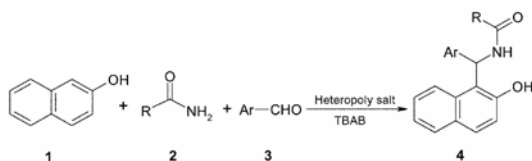
Three new complexes $[Mg(H_2O)_6](optp)_2$, $[Ni(H_2O)_6](optp)_2$ and $[Zn(H_2O)_6](optp)_2$ were prepared hydrothermally and characterized by single crystal X-ray diffraction, IR, UV-Vis spectra, thermogravimetric analysis and magnetic susceptibility measurements. In the crystal lattice, the cationic units $[M(H_2O)_6]^{2+}$ are bridged by the carboxylate oxygen atom through hydrogen bonds giving rise to one-dimensional chains and ribbons. The hydrogen-bonding and π – π interactions lead to a 3-D supramolecular network.



Sheet-like of Mo^V – Sm^{III} assembly containing $[Mo^V(CN)_8]^{3-}$ and Sm^{3+} ions as building blocks

Shu-Lin Ma, Shi Ren, Yue Ma and Dai-Zheng Liao 421–427

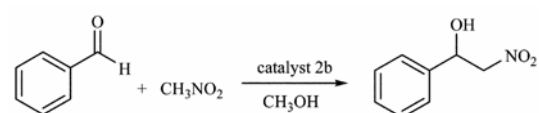
The reaction of $[Mo(CN)_8]^{3-}$ with Sm^{3+} and 2,2'-bipyridine (bpy) leads to a sheet-like bimetallic cyano-bridged network, in which the $[Sm(H_2O)_9]^{3+}$ units are buried in the holes which are made by π – π stacks between adjacent layers.



Cu-exchanged heteropoly acids as efficient and reusable catalysts for preparation of 1-amidoalkyl-2-naphthols

Hojatollah Khabazzadeh, Kazem Saidi and Neda Seyedi 429–433

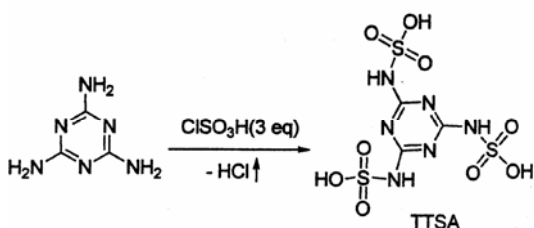
A series of amidoalkyl naphthols were prepared in high yields in the presence of $Cu_{1.5}PMo_{12}O_{40}$ and $Cu_{1\beta.5}PW_{12}O_{40}$ as catalyst.



The synthesis of N–Zn, N–Cu complexes involving 2-amino pyridine and ethylenediamine ligands and application to the Henry reaction

Luo Mei, Tang Hai Ming, Li Qian Rong, Sun Jie, Yang Shan Zhong and Li Xue Liang 435–440

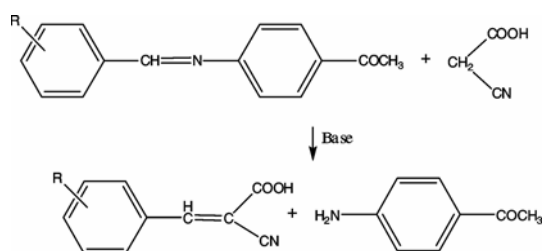
A series of N–Zn, N–Cu complexes with 2-amino pyridine and ethylenediamine ligands (1a–b and 2a–b) have been synthesised by a one-pot method and used as catalysts in an application to the Henry reaction. The structures of 1a, 1b, 2a and 2b were determined by X-ray crystallography.



1,3,5-Triazine-2,4,6-trilytrisulfamic acid (TTSA): A new organic solid acid for the nitrosation of secondary amines and oxidation of urazoles in the presence of $NaNO_2$ under mild and heterogeneous conditions

Gholamabbas Chehardoli, Mohammad Ali Zolfigol, Toktam Faal-Rastegar, Shadpour Mallakpour and Arash Ghorbani-Choghmarani 441–447

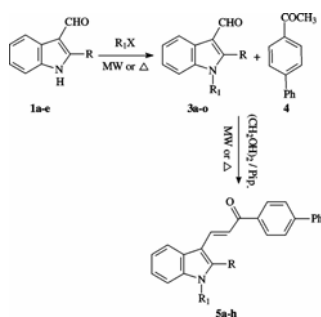
Melamine was treated with chlorosulfonic acid ($ClSO_3H$) to form a new sulfamic-type acid, 1,3,4-triazine-2,4,6-trilytrisulfamic acid (TTSA). Both nitrosation of secondary amines and oxidation of urazoles were accomplished by using TTSA/ $NaNO_2$ system under mild and heterogeneous conditions.



Chemoselective reaction of cyanoacetic acid with benzal-4-acetylanilines and fungitoxicity of products

Anjali Sidhu, J R Sharma and Mangat Rai 449–453

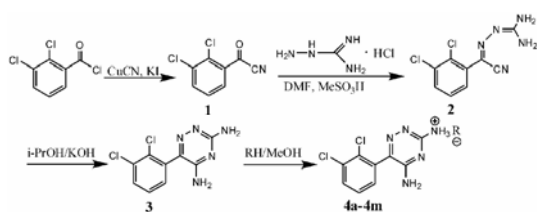
The reaction of cyanoacetic acid with benzal-4-acetylanilines and its derivatives are presented. The fungitoxicity of the products are also studied.



Synthesis and cellular cytotoxicities of new *N*-substituted indole-3-carbaldehyde and their indolylchalcones

Magdy A H Zahran and Atef M Ibrahim 455–462

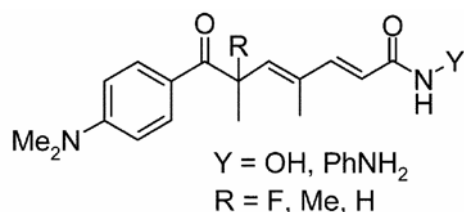
A simple and efficient method for *N*-alkylation of indole-3-carbaldehyde derivatives under conventional and microwave irradiation conditions is reported and subsequent condensation with 1-biphenyl-4-yl-ethanone yielded the corresponding indolylchalcone derivatives **5a–h** are reported.



Synthesis, antimicrobial activity of lamotrigine and its ammonium derivatives

Yong Qian, Peng-Cheng LV, Lei Shi, Rui-Qin Fang, Zhong-Cheng Song and Hai-Liang Zhu 463–470

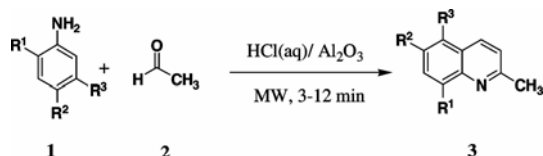
Antiepileptic drug lamotrigine and its ammonium salt complexes (**4a–4m**) were synthesized. All these complexes exhibited antibacterial activity against Gram-positive bacteria, but showed mild, or negligible activity against Gram-negative bacterial strains.



Biological activities of substituted trichostatic acid derivatives

Cédric Charrier, Joëlle Roche, Jean-Pierre Gesson and Philippe Bertrand 471–479

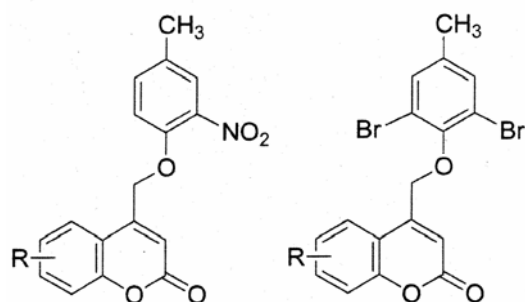
New trichostatic acid derivatives have been synthesized and evaluated as antiproliferative agents and HDAC inhibitors. The first fluorinated derivatives of trichostatic acid such as 6-fluoro trichostatin A are described. These fluorinated derivatives show antiproliferative and histone deacetylase inhibitory activity.



One-pot synthesis of quinaldine derivatives by using microwave irradiation without any solvent – A green chemistry approach

Javad Safari, Sayed Hossein Banitaba and Sepehr Sadegh Samiei 481–484

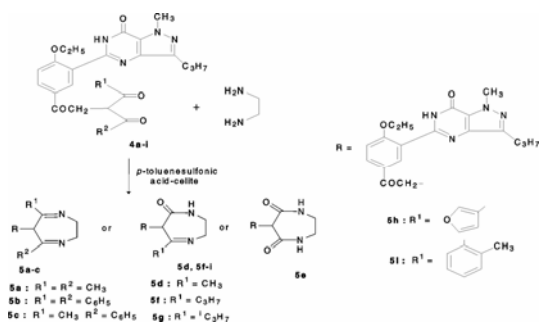
A one-pot synthesis for quinaldine derivatives has been developed by the reaction of anilines and acetaldehyde on the surface of neutral alumina impregnated with hydrochloric acid under microwave irradiation without any solvent.



Synthesis of some new 4-aryloxymethylcoumarins and examination of their antibacterial and antifungal activities

Mahantesha Basanagouda, Manohar V Kulkarni, Deepak Sharma, Vivek K Gupta, Pranasha, P Sandhyarani and Vijaykumar P Rasal 485–495

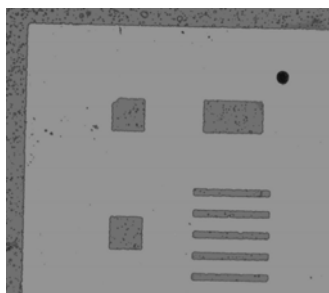
A series of new 4-aryloxymethylcoumarins have been synthesized from the reaction of various 4-bromomethylcoumarins with substituted-*p*-cresols and characterized by NMR spectroscopy and X-ray crystallography. Their antimicrobial properties have been studied.



Synthesis, antimicrobial and antifungal activities of novel 1H-1,4-diazepines containing pyrazolopyrimidinone moiety

Rajesh Kumar and Yogesh Chandra Joshi 497–502

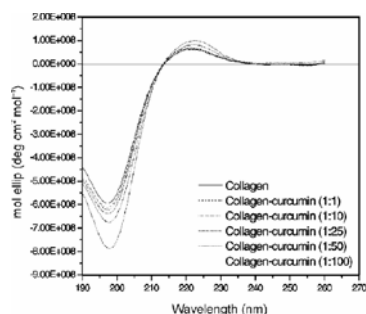
A convenient and efficient method has been developed for the synthesis of a series of 1H-1,4-diazepines from β -diketones or β -ketoesters **4a–i** and ethylenediamine (EDA). The compound **5c** exhibits considerable antimicrobial and antifungal activity; compounds **5d**, **5e** and **5h** show significant anthelmintic activity.



Azido-*m*-meconine-‘high ortho’ Novolak resin based negative photoresists for deep UV lithography

Maneesh Sharma, Anant A Naik, Manoj Gaur, P Raghunathan and S V Eswaran 503–508

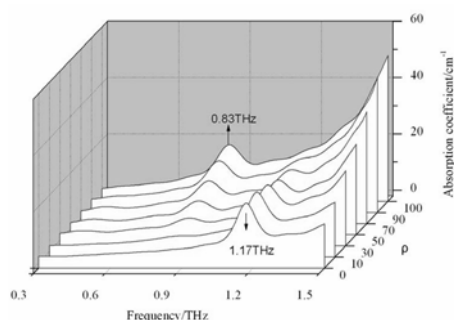
A new photoresist using azido-*m*-meconine blended with ‘alternating’ and ‘semi-alternating’, ‘high ortho’ novolac resins based on *m/p*-cresol in ethyl lactate has been evaluated as a negative tone ‘Deep UV’ resist for microlithography.



Collagen–curcumin interaction – A physico-chemical study

N Nishad Fathima, R Saranya Devi, K B Rekha and Aruna Dhathathreyan 509–514

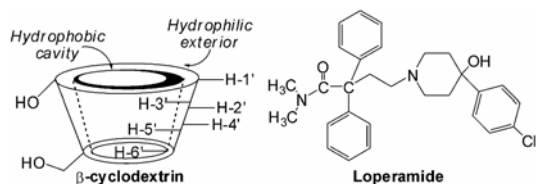
Curcumin interaction with collagen results in significant changes in viscosity and surface tension with no dramatic changes in secondary structural features of the protein. The results suggest additional crosslinks due to new H-bond networks in curcumin–collagen.



Quantitative measurement of mixtures by terahertz time-domain spectroscopy

Guifeng Liu, Zengyan Zhang, Shihua Ma, Hongwei Zhao, Xiaojing Ma and Wenfeng Wang 515–520

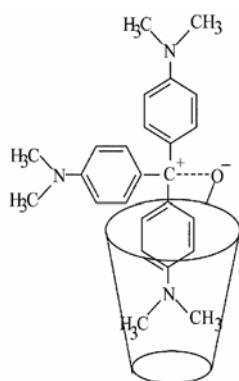
Terahertz absorption spectra of binary mixture (*m*-AP and *m*-NA) were obtained using terahertz time-domain spectroscopy in the frequency range of 0.3–1.5 THz. By a quantitative analysis method, the relative contents in each mixture were found to be close to the actual contents within an error of 7%.



Solution structure of loperamide and β -cyclodextrin inclusion complexes using NMR spectroscopy

Santosh Kumar Upadhyay and Syed Mashhood Ali 521–527

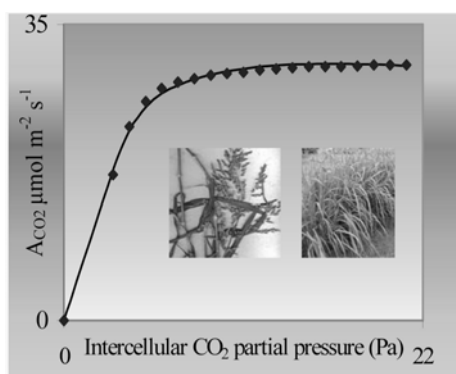
NMR (^1H) spectroscopic study of loperamide, β -cyclodextrin and their mixtures confirmed the formation of 1 : 1 inclusion complexes in solution. The inclusion of aromatic rings of loperamide in β -cyclodextrin cavity can be from narrower as well as the wider rim side.



Guest–host interactions in the alkaline bleaching of triphenyl-methane dyes catalysed by β -cyclodextrin

V Raj, A Sarathi, T Chandrakala, S Dhanalakshmi, R Sudha and K Rajasekaran 529–534

The rates of alkaline bleaching of triphenyl methane dyes-crystal violet, malachite green and rosaniline have been measured spectrophotometrically in presence of β -cyclodextrin. The rate constant for the bleaching of fully complexed dye and dissociation constant of the [Dye-CD] complex were evaluated from the kinetic data.

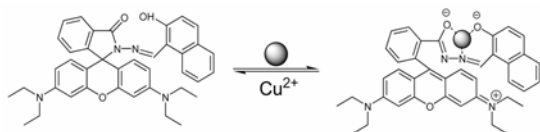


Pressure effect on rate of production of glucose-equivalent in plant cells

Anirban Panda, Surjendu Bhattacharyya and Sambhu N Datta 535–542

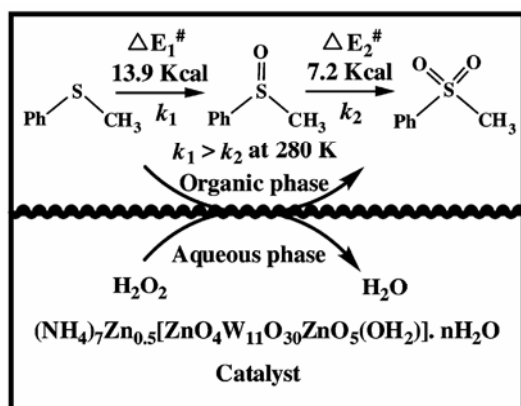
A pressure and temperature-dependent expression for the rate of glucose-equivalent production in C_4 plants is derived. For the first time an analytical expression is derived for the pressure activation quotient of rubisco. The rate is tested for two specific C_4 plants, namely, *Panicum antidotale* and *Panicum coloratum*.

Highly sensitive optical chemosensor for the detection of Cu^{2+} using a rhodamine B spirolatam



Gen Hua Wu, Dong Xiang Wang, Da Yu Wu, Yuan Gao and Zhu Qing Wang 543–548

Highly sensitive to naked-eye and fluorescent chemosensor molecule **RHN** for selective detection of Cu^{2+} in mixed CH_3CN aqueous media has been designed by incorporating rhodamine fluorophore and a terdentate O_2N binding unit into a single molecule.



Cover picture: The conversion of sulfide to sulfone, one among many other oxidations in aqueous biphasic media by hydrogen peroxide with the polyoxoanion as the catalyst, is simulated successfully by a simple kinetic model. For details see the paper by Prasenjit Maity *et al* (pp 377–385).