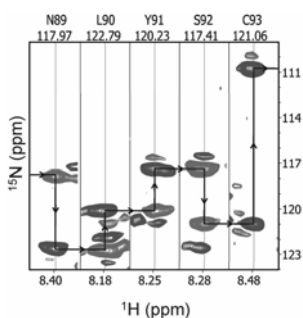


CONTENTS

Generation of serine/threonine check points in HN(C)N spectra

Dinesh Kumar, Jeetender Chugh and Ramakrishna V Hosur 955–964

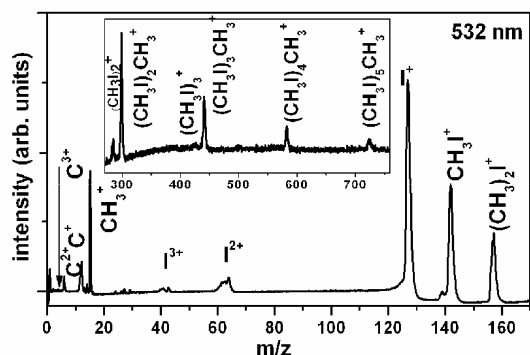
A simple modification of the HN(C)N experiment for the generation of serine/threonine check points in the three-dimensional experiment has been described here. The various ‘triplet of residue’ specific peak patterns in the spectra are documented for ease of analysis and sequential backbone resonance assignment. In general, this would have greater implications for structural genomics efforts.



Coulomb explosion of methyl iodide clusters using giga watt laser pulses in the visible region: Effect of wavelength, polarisation and doping

S Das, P Sharma and R K Vatsa 965–972

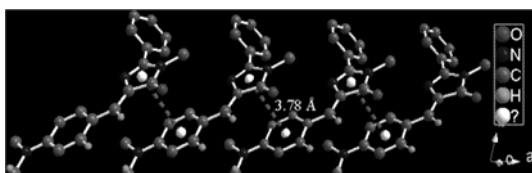
Nanosecond laser-induced Coulomb explosion at 532 and 563 nm was studied in methyl iodide clusters under giga-watt intensity. Multiple charged carbon and iodine ions having large kinetic energy were observed in both the cases which showed isotropic angular distribution with respect to laser polarization direction.



Dominant $\pi \cdots \pi$ interaction in the self assemblies of 4-benzylidene imidazolin-5-one analogues

Basanta K Rajbongshi and Gurunath Ramanathan 973–982

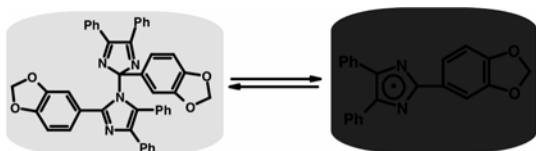
Crystal structures of five imidazolin-5-ones are presented. These structures show how weak $\pi \cdots \pi$ interactions can be exploited for tailoring supra-molecular assemblies.



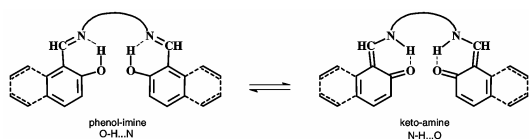
Multifunctional switches based on *bis*-imidazole derivative

Abdullah M A Asiri, Gameel A Baghaffar, Khadija O Badahdah, Abdullah G M Al-Sehemi, Salman A Khan and Abeer A Bukhari 983–987

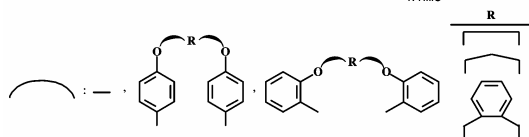
A multifunctional *bis*-imidazole derived from piperonal was prepared and found to have photo, thermo, solvato and piezochromism with colour changes from pale green to deep blue. The multifunctionality colour changes and stability of the coloured species make the derivative candidates for various applications such as optical data storage. The photochromic properties and performance were found to be affected remarkably upon changing the solvent.



Intramolecular hydrogen bonding and tautomerism in Schiff bases: Part VI. Syntheses and structural investigation of salicylaldimine and naphthaldimine derivatives

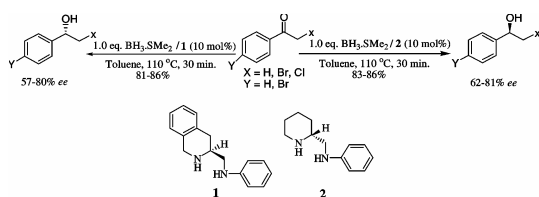


Selen Bilge, Zeynel Kılıç, Zeliha Hayvalı, Tuncer Hökelek and Serap Safran 989–1001



2-Hydroxy aldimines derived from condensation reactions of N_2O_2 donor type aminopodands, $[(H_2NPhO)_2R]$, and hydrazine with salicylaldehyde and 2-hydroxy-1-naphthaldehyde, respectively, have been prepared and characterized in detail by using IR, MS, UV-vis, 1D (DEPT, 1H and ^{13}C) and 2D (HETCOR and HMBC) NMR techniques. Delocalization parameters 'Q' have been calculated in order to discuss the tautomerism in the solid state.

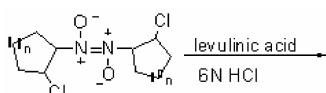
Towards chiral diamines as chiral catalytic precursors for the borane-mediated enantioselective reduction of prochiral ketones



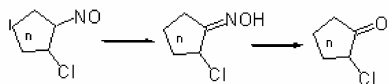
Deevi Basavaiah, Utpal Das and Suparna Roy 1003–1010

The chiral diamines (3*S*)-3-anilinoethyl-1,2,3,4-tetrahydroisoquinoline (**1**) and (2*R*)-2-anilinoethylpiperidine (**2**) have been employed as chiral catalytic sources in the borane-mediated asymmetric reduction of prochiral ketones.

Conversion of α, α' -dichlorodiazene dioxides using levulinic acid under solvent-free conditions to α -chloroketones through a three-step domino process

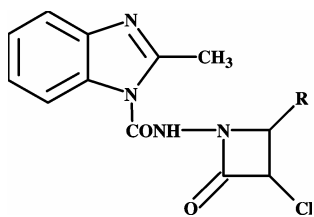


B C Vimala and Gopalpur Nagendrappa 1011–1015



The conversion of oxime-carbonyl group is an important group transformation that has been devoted to prepare α -chloroketones from 1-chloro-2-nitroso compounds by a tandem tautomerization-deoximation by adopting the Green Chemistry principle of solvent-free conditions.

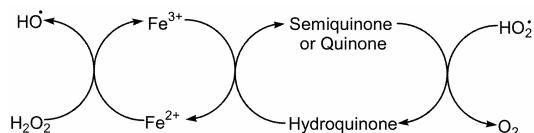
Synthesis and biological activity of some heterocyclic compounds containing benzimidazole and beta-lactam moiety



K F Ansari and C Lal 1017–1025

Synthesis and biological activity of some heterocyclic compounds containing benzimidazole and beta-lactam moiety have been reported. The synthesized compounds exhibited good antibacterial activity against Gram positive bacteria and some of the compounds also showed notable anti-fungal activity.

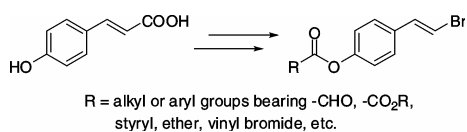
A study of catalytic behaviour of aromatic additives on the photo-Fenton degradation of phenol red



Abhilasha Jain, Savitri Lodha, P B Punjabi, V K Sharma and Suresh C Ameta 1027–1034

The photochemical degradation of phenol-red using photo-Fenton reaction has been presented. The effect of various organic additives e.g. hydroquinone, resorcinol and catechol on the rate of photodegradation has been investigated. Also the effect of various parameters such as pH, concentration of dye, Fe^{3+} ion and additives, amount of H_2O_2 , and light intensity on the rate of photodegradation was studied and a tentative mechanism of the reaction has been proposed.

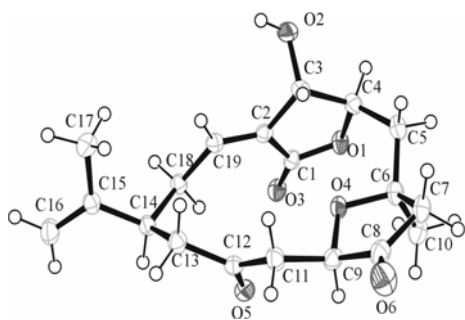
A new convenient access to highly functionalized (*E*)-2-arylviny bromides



Yubo Jiang and Chunxiang Kuang 1035–1040

A new and convenient method by acylation of (*E*)-4-(2-bromovinyl)phenol with fatty and aromatic acids at room temperature using dicyclohexyl carbodiimide (DCC) and dimethylaminopyridine (DMAP) the (*E*)-2-Arylviny bromides were prepared with high yields.

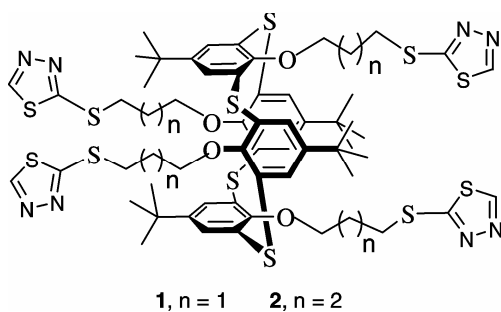
Structural studies and antimicrobial properties of norcembrane diterpenoid from an Indian soft coral *Sinularia inelegans* Tixier-Durivault



Keisham Sarjit Singh, Werner H Kaminsky, Celina Rodrigues and C G Naik 1041–1046

Two metabolites featuring norcembranoid diterpene skeleton have been isolated and the structures of the metabolites were determined by 1D, 2D NMR spectroscopic data and HRESIMS data analysis. The study has revealed moderate-to-high antimicrobial activities of compounds.

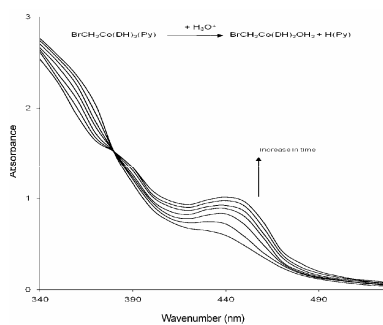
Crystal structures of two thiacalix[4]arene derivatives anchoring four thiazole groups



Bang-Tun Zhao, Zhen Zhou and Zhen-Ning Yan 1047–1052

The crystal structures of two thiacalixarene derivatives, C₆₀H₇₂O₄S₁₂N₈ (1), C₆₄H₈₀O₄S₁₂N₈ (2), have been determined by X-ray diffraction. Both 1 and 2 adopt 1,3-alternate conformation in solid state. They form 3-D and 2-D supramolecular networks through intermolecular weak interactions respectively.

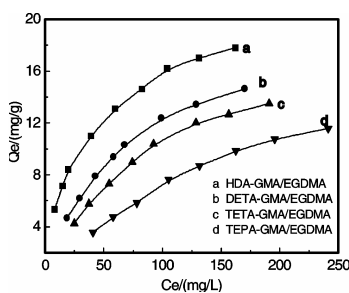
Kinetics and equilibria for the axial ligation of bromomethyl (aqua)cobaloxime with pyridines – Isolation characterization and DNA binding



Kotha Laxma Reddy, K Ashwini Kumar, N Ravi Kumar Reddy, Penumaka Nagababu, A Panasa Reddy and S Satyanarayana 1053–1060

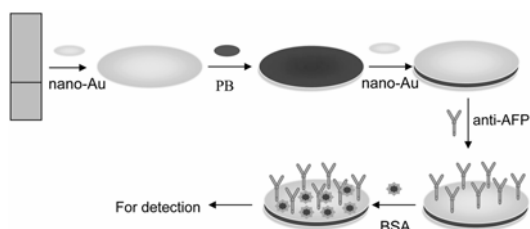
Kinetics of dissociation of BrCH₂Co(DH)₂Py in to BrCH₂Co(DH)₂OH₂ at pH = 2.5. Isosbestic point = 380 nm.

Preparation and adsorption property of aminated cross linking microbeads of GMA/EGDMA for bilirubin



Zhiping Chen, Baojiao Gao and Xiaofeng Yang 1061–1068

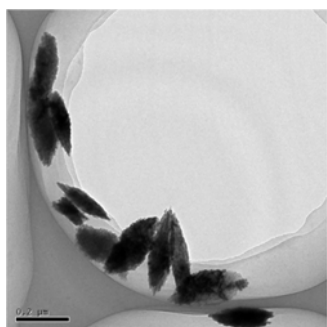
The aminated microbeads have strong adsorption ability for bilirubin. Among four kinds of aminated microbeads, the adsorption ability of HDA-GMA/EGDMA is stronger than that of others, and the longer the molecule of multi-ethylene multi-amine the weaker the adsorption ability for bilirubin.



Disposable amperometric immunosensor based on layer-by-layer electro-depositing of the nanogold particles, prussian blue-modified indium tin oxide for determination of α -fetoprotein

Yan Li, Wen-Bin Liang, Li-Chao Fang, Hui Huang, Jun Deng and Jun-Song Zheng 1069–1076

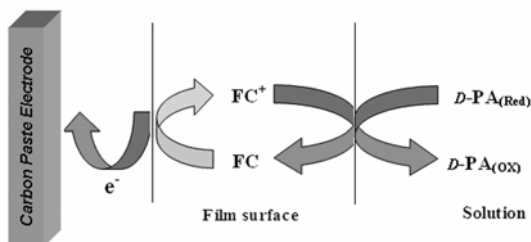
The new immunosensor based on indium-tin oxide exhibits high sensitivity and good stability.



Synthesis of chrysalis-like CuO nanocrystals and their catalytic activity in the thermal decomposition of ammonium perchlorate

Jun Wang, Shanshan He, Zhanshuang Li, Xiaoyan Jing, Milin Zhang and Zhaohua Jiang 1077–1081

The chrysalis-like CuO have been synthesized in large quantity via a simple chemical deposition method without the use of any complex instruments and reagents. The catalytic effect of chrysalis-like CuO on the decomposition of ammonium perchlorate (AP) was investigated.



Voltammetric sensor for D-penicillamine determination based on its electrocatalytic oxidation at the surface of ferrocenes modified carbon paste electrodes

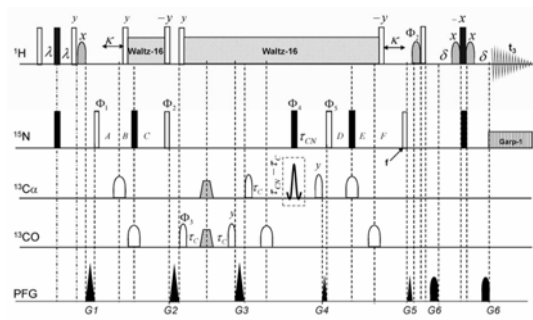
Jahan-Bakhsh Raouf, Reza Ojani and Fereshteh Chekin 1083–1091

Electrooxidation of D-penicillamine at the surface of ferrocene modified carbon paste electrode was investigated in aqueous solution. The performance of this electrode was compared with 2,7-bis(ferrocenyl ethyl) fluoren-9-one modified carbon paste electrode. The proposed method was applied in sensitive determination of D-PA in drug and human synthetic serum.

Subject Index 1093–1111

Author Index 1112–1121

Volume Contents i–ix



Cover picture: Pulse sequence for the HN(C)N experiment. For details see the paper by Dinesh Kumar *et al* (pp 955–964).