

Proceedings (Chemical Sciences)

Volume 114, 2002

CONTENTS

Inorganic and Analytical

- Coenzyme B₁₂ model studies: Equilibrium constants for the pH-dependent axial ligation of benzyl(aquo)cobaloxime by various N- and S-donor ligands
D Sudarshan Reddy, N Ravi Kumar Reddy, V Sridhar and S Satyanarayana 1–10
- Equilibria and kinetics for pH-dependent axial ligation of alkyl(aquo)cobaloximes with aromatic and aliphatic N-donor ligands
V Sridhar, D Sudarshan Reddy, N Ravikumar Reddy and S Satyanarayana 11–23
- Dipicolinate complexes of main group metals with hydrazinium cation
K Saravanan and S Govindarajan 25–36
- Interactions between oxovanadium(IV), glycylvaline and imidazoles: An aqueous potentiometric and spectroscopic study
R N Patel, V K Soni, K K Shukla, S Sharma and K B Pandeya 37–46
- A new layered iron fluorophosphate
Amitava Choudhury 93–105
- Synthesis and characterization of a reduced heteropolytungstovanadate: (NH₄)₇[V^VO₄W₁₀^{VI}V₂^{IV}O₃₆].ca.22H₂O
Vaddypally Shivaiah and Samar K Das 107–114
- Potentiometric and spectrometric study: Copper(II), nickel(II) and zinc(II) complexes with potentially tridentate and monodentate ligands
R N Patel, Nripendra Singh, R P Shrivastava, K K Shukla and P K Singh 115–124
- Mixed ligand complex formation of Fe^{III} with boric acid and typical N-donor multidentate ligands
G N Mukherjee and Ansuman Das 163–174
- Half-sandwich (*h*⁶-arene)ruthenium(II) chiral Schiff base complexes: Analysis of the diastereomeric mixtures in solution by 2D-NMR spectroscopy
Rakesh K Rath, G A Nagana Gowda and Akhil R Chakravarty 461–472
- Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation
I Sougandi, T M Rajendiran, R Venkatesan and P Sambasiva Rao 473–479

Organic

- Lifetimes of **a**-halo and **a**-azidobenzyl carbocations in aqueous solution
R Sanjeev and V Jagannadham 47–54
- An analysis on the transmission of electron density through sulphur atoms in the quaternization reactions of benzothiazoles
B K Mishra and Sabita Patel 55–60
- Syntheses and absorption–structure relationships of some new photosensitizer cyanine dyes
H A Shindy and A I M Koraiem 125–136
- Five decades in the study of natural products
T R Govindachari 175–195
- Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone
Santanu Bhattacharya and Saubhik Haldar 197–201
- Catalytic effects of poly(methyl methacrylate)-supported **b**-diketone-linked palladium complexes in olefin oxidation
Vipin A Nair, M M Suni and K Sreekumar 481–486

Physical and Theoretical

- Partitioning of methyl internal rotational barrier energy of thioacetaldehyde
Nikhil Guchhait 61–74
- EPR investigations of electron transfer in one-electron reduced **a**1,4 K₅[PV₂W₁₀O₄₀].3H₂O
C M Varghese, A Shummugasundaram, R Murugesan and T Jeyabalan 75–82
- Photoisomerization of merocyanine 540 in polymer–surfactant aggregate
Sobhan Sen, Dipankar Sukul, Partha Dutta and Kankan Bhattacharyya 83–91
- Kinetics and mechanism of the oxidation of organic sulphides by 2,2'-bipyridinium chlorochromate
Shashi Vyas and Pradeep K Sharma 137–148
- Kinetics and mechanism of oxidation of dimethyl sulphoxide by sodium bromate–sodium bisulphite reagent in aqueous medium
J Viroopakshappa and V Jagannadham 149–154
- Effects of preparation temperature on the conductivity of polypyrrole conducting polymer
Anuar Kassim, Zarina Bte Basar and H N M Ekramul Mahmud 155–162
- Vapour phase alkylation of ethylbenzene with *t*-butyl alcohol over mesoporous Al-MCM-41 molecular sieves
V Umamaheswari, M Palanichamy, Banumathi Arabindoo and V Murugesan 203–212

Liquid crystalline behaviour of mixtures of structurally dissimilar mesogens in binary systems	<i>Jayrang S Dave, Meera R Menon and Pratik R Patel</i>	213–221
Theoretical studies on electron delocalisation in selenourea	<i>Rajnish Moudgil, Prasad V Bharatam, Ravneet Kaur and Damanjit Kaur</i>	223–230
Occurrence of single-electron phenomenon in CdS nanoclusters in Langmuir–Blodgett films of <i>n</i> -octadecyl succinic acid	<i>G Hemakanthi and Aruna Dhathathreyan</i>	487–494
Density and viscosity of magnesium sulphate in formamide + ethylene glycol mixed solvents	<i>A Ali, A K Nain, N Kumar and M Ibrahim</i>	495–500
Isomerization and fluorescence depolarization of merocyanine 540 in polyacrylic acid. Effect of <i>pH</i>	<i>Dipankar Sukul, Sobhan Sen, Partha Dutta and Kankan Bhattacharyya</i>	501–511
Synthesis of a stable gold hydrosol by the reduction of chloroaurate ions by the amino acid, aspartic acid	<i>Saikat Mandal, PR Selvakannan, Sumant Phadtare, Renu Pasricha and Murali Sastry</i>	513–520

Special issue on Modern Trends in Inorganic Chemistry

Foreword	<i>P Banerjee</i>	231
Organometallic chemistry of chiral diphosphazane ligands: Synthesis and structural characterisation	<i>K Raghuraman, S K Mandal, T S Venkatakrishnan, S S Krishnamurthy and M Nethaji</i>	233–246
Bending crystals. Solid state photomechanical properties of transition metal complexes containing semiquinonate ligands	<i>Cortlandt G Pierpont</i>	247–254
Thiosemicarbazone complexes of the platinum metals. A story of variable coordination modes	<i>Indrani Pal, Falguni Basuli and Samaresh Bhattacharya</i>	255–268
Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties	<i>Parimal Paul</i>	269–276
Transition metal catalysed Grignard-like allylic activation across tetragonal tin(II) oxide	<i>Pradipta Sinha, Moley Banerjee, Abhijit Kundu and Sujit Roy</i>	277–283
Chemistry of dihydrogen complexes containing only phosphorus co-ligands	<i>Balaji R Jagirdar and Nisha Mathew</i>	285–289
Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes	<i>Jon A McCleverty and Michael D Ward</i>	291–309

Inverted porphyrins and expanded porphyrins: An overview <i>S K Pushpan, S Venkatraman, V G Anand, J Sankar, H Rath and T K Chandrashekar</i>	311–338
Design and synthesis of multidentate ligands via metal promoted C–N bond formation processes and their coordination chemistry <i>Kunal K Kamar, Amrita Saha and Sreebrata Goswami</i>	339–346
Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands <i>D Saravanabharathi, M Nethaji and A G Samuelson</i>	347–356
Organotellurium ligands – designing and complexation reactions <i>Ajai K Singh</i>	357–366
Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond <i>K C Kumara Swamy, Sudha Kumaraswamy, Praveen Kommana, N Satish Kumar and K Senthil Kumar</i>	367–377
Novel vanadium phosphate phases as catalysts for selective oxidation <i>Arunabha Datta, Monika Agarwal and Soumen Dasgupta</i>	379–390
Copper complexes as chemical nucleases <i>Akhil R Chakravarty, Pattubala A N Reddy, Bidyut K Santra and Anitha M Thomas</i>	391–401
New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding <i>S Murali, C V Sastri and Bhaskar G Maiya</i>	403–415
Copper(II) complexes with aroylhydrazones <i>Samudranil Pal</i>	417–430
Intervalence charge transfer transition in mixed valence complexes synthesised from Ru ^{III} (edta)- and Fe ^{II} (CN) ₅ -cores <i>H C Bajaj, Atindra D Shukla and Amitava Das</i>	431–442
Bridging function mediated intermetallic coupling in diruthenium-bis(bipyridine) complexes <i>Soma Chakraborty, Biplab Mondal, Biprajit Sarkar and Goutam Kumar Lahiri</i>	443–449
Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications <i>Asim Bhaumik</i>	451–460

Special issue on Recent Advances in Photochemistry

Foreword	521
A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones <i>I Sharma, A Saxena, C K Ojha, P Pardasani, R T Pardasani and T Mukherjee</i>	523–531

Photoinduced electron transfer of chlorophyll in lipid bilayer <i>D K Lee, K W Seo and Y S Kang</i>	533–538
Fluorescence signalling of the transition metal ions: Design strategy based on the choice of the fluorophore component <i>N B Sankaran, S Banthia and A Samanta</i>	539–545
Photophysical properties of 5-hydroxyindole (5HI): Laser flash photolysis study <i>T Misra, A K De, S K Pal, T Bhattacharya and T Ganguly</i>	547–556
Optical nonlinearity of organic dyes as studied by Z-scan and transient grating techniques <i>Umakanta Tripathy, R Justin Rajesh, Prem B Bisht and A Subrahamanyam</i>	557–564
A new family of donor–acceptor systems comprising tin(IV) porphyrin and anthracene subunits: Synthesis, spectroscopy and energy transfer studies <i>A Ashok Kumar, L Giribabu and Bhaskar G Maiya</i>	565–578
Protein scissors: Photocleavage of proteins at specific locations <i>Challa V Kumar, Apinya Buranaprapuk and Jyotsna Thota</i>	579–592
Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems <i>Minjoong Yoon and Devendra P S Negi</i>	593–602
Regioselective <i>E(trans)</i> – <i>Z(cis)</i> photoisomerization in naphthylidene derivatives <i>Maruthi Janaki Ram Reddy, V Venkat Reddy, U Srinivas, M Janaki Ram Reddy and V Jayathirtha Rao</i>	603–609
A transient absorption study of allophycocyanin <i>Y J Shiu, J M Zhang, M Hayashi, V Gulbinas, C M Yang and S H Lin</i>	611–621
Origin of methyl torsional potential barrier – An overview <i>Tapanendu Kundu, Biswajit Pradhan and Bhanu P Singh</i>	623–638
Control strategies for laser separation of carbon isotopes <i>V Parthasarathy, A K Nayak and S K Sarkar</i>	639–648
Modelling of multifrequency IRMPD for laser isotope separation <i>Akshaya K Nayak and Sisir K Sarkar</i>	649–657
Maximization of yield of C-13 isotope by multiphoton dissociation of Freon-22 using high average power TEA CO ₂ laser <i>Manoj Kumar, Anant Deshpande, Chintan Gupta, A K Biswas and A K Nath</i>	659–673

Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO ₂ at 222.4 nm <i>Mohammed Abu-Bajeh, Melanie Cameron, Kyung-Hoon Jung, Christoph Kappel, Almuth Lauter, Kyoung-Seok Lee, Hari P Upadhyaya, Rajesh K Vatsa and Hans-Robert Volpp</i>	675–686
Interaction between an 8-methoxypyrimido[4',5':4,5] thieno(2,3- <i>b</i>)quinoline-4(3H)one antitumour drug and deoxyribonucleic acid <i>M Gopal, M S Shahabuddin and Sanjeev R Inamdar</i>	687–696
Radiolysis and corrosion of ²³⁸ Pu-doped UO ₂ pellets in chloride brine <i>M Kelm and E Bohnert</i>	697–704
Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity <i>K P Mishra</i>	705–711
An immunomodulator from <i>Tinospora cordifolia</i> with antioxidant activity in cell-free systems <i>Veena R Desai, J P Kamat and K B Sainis</i>	713–719
Redox chemistry of <i>o</i> - and <i>m</i> -hydroxycinnamic acids: A pulse radiolysis study <i>P Yadav, H Mohan, B S M Rao and J P Mittal</i>	721–730
Direct optical observation of the formation of some aliphatic alcohol radicals. A pulse radiolysis study <i>E Janata</i>	731–737
Oxidation reactions of 1,3-diphenylpropane-1,3-dione <i>Medha Rele, B S Patro, S Adhikari, G P Kalena, S Chattopadhyay and T Mukherjee</i>	739–747
Effect of electron-withdrawing power of the substituted group on •OH radical reaction with substituted aryl sulphides: A pulse radiolysis study <i>Hari Mohan</i>	749–758
List of all papers presented at the Conference	759–774
Subject Index	775–785
Author Index	786–791