

## SUBJECT INDEX

- Ab initio* and density functional  
Theoretical studies on electron delocalisation  
in selenourea 223
- Absolute configuration  
Half-sandwich ( $h^6$ -arene) ruthenium(II)  
chiral Schiff base complexes: Analysis of the  
diastereomeric mixtures in solution by 2D-  
NMR spectroscopy 461
- Absorption–structure relationship  
Synthesis and absorption–structure relation-  
ships of some new photosensitizer cyanine  
dyes 125
- H-Abstraction  
Photophysical properties of 5-hydroxyindole  
(5HI): Laser flash photolysis study 547
- Activation energy of viscous flow  
Density and viscosity of magnesium sulphate  
formamide + ethylene glycol mixed solvents  
495
- Aliphatic alcohols  
Direct optical observation of the formation of  
some aliphatic alcohol radicals. A pulse  
radiolysis study 731
- Alkylcobaloximes  
Equilibria and kinetics for *pH*-dependent  
axial ligation of alkyl(aquo) cobaloximes  
with aromatic and aliphatic N-donor ligands  
11
- $h^3$ -Alkyl palladium complexes  
Organometallic chemistry of chiral diphos-  
phazane ligands: Synthesis and structural  
characterisation 233
- Allophycocyanin  
A transient absorption study of allophycocyanin  
611
- Allylation  
Transition metal catalysed Grignard-like  
allylic activation across tetragonal tin(II)  
oxide 277
- Al-MCM-41  
Vapour phase alkylation of ethylbenzene  
with *t*-butyl alcohol over mesoporous Al-  
MCM-41 molecular sieves 203
- Anthracene  
A new family of donor-acceptor systems  
comprising tin(IV) porphyrin and anthracene  
subunits: Synthesis, spectroscopy and energy  
transfer studies 565
- Antioxidant  
An immunomodulator from *Tinospora*  
*cordifolia* with antioxidant activity in cell-  
free systems 713
- Aqueous solution  
Effect of electron-withdrawing power of the  
substituted group on  $\cdot$ OH radical reaction  
with substituted aryl sulphides: A pulse  
radiolysis 749
- (Arene) ruthenium(II) complex  
Half-sandwich ( $h^6$ -arene) ruthenium(II)  
chiral Schiff base complexes: Analysis of the  
diastereomeric mixtures in solution by 2D-  
NMR spectroscopy 461
- Aromatic ring amination  
Design and synthesis of multidentate ligands  
via metal promoted C–N bond formation  
processes and their coordination chemistry  
339
- Aroylhydrazones  
Copper(II) complexes with aroylhydrazones  
417
- Artificial photosynthesis  
Photoinduced electron transfer of chlorophyll  
in lipid bilayer system 533
- Aryl sulphides  
Effect of electron-withdrawing power of the  
substituted group on  $\cdot$ OH radical reaction  
with substituted aryl sulphides: A pulse  
radiolysis 749
- Azadirachtin A  
Five decades in the study of natural products  
175
- a*-Azidobenzyl carbocations  
Lifetimes of *a*-halo and *a*-azidobenzyl  
carbocations in aqueous solution 47
- dp–pp* Back bonding  
Coenzyme B<sub>12</sub> model studies: Equilibrium  
constants for the *pH*-dependent axial ligation  
of benzyl(aquo)cobaloxime by various N-  
and S-donor ligands 1
- Benzothiazole  
An analysis on the transmission of electron  
density through sulphur atoms in the qua-  
rternization reactions of benzothiazoles 55
- Benzyl(aquo)cobaloxime  
Coenzyme B<sub>12</sub> model studies: Equilibrium  
constants for the *pH*-dependent axial ligation  
of benzyl(aquo)cobaloxime by various N-  
and S-donor ligands 1
- Biheterocyclic compounds  
Synthesis and absorption–structure relation-  
ships of some new photosensitizer cyanine  
dyes 125

- Binary mixture  
Liquid crystalline behaviour of mixtures of structurally dissimilar mesogens in binary systems 213
- Bioconjugates  
Synthesis of a stable gold hydrosol by the reduction of chloraurate ions by the amino acid, aspartic acid 513
- t*-Butyl alcohol  
Vapour phase alkylation of ethylbenzene with *t*-butyl alcohol over mesoporous Al-MCM-41 molecular sieves 203
- t*-Butylation  
Vapour phase alkylation of ethylbenzene with *t*-butyl alcohol over mesoporous Al-MCM-41 molecular sieves 203
- Cadmium potassium phosphate hexahydrate  
Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation 473
- Camphor sulfonate dopant  
Effects of preparation temperature on the conductivity of polypyrrole conducting polymer 155
- Carbon isotopes  
Control strategies for laser separation of carbon isotopes 639
- Carbon-13  
Maximization of yield of C-13 isotope by multiphoton dissociation of Freon-22 using high average power TEA CO<sub>2</sub> laser 659
- Carpaine  
Five decades in the study of natural products 175
- Catalytic properties  
Copper complexes as chemical nucleases 391
- Cationic framework  
Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- Cationic lipids  
Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone 197
- CdS nanoclusters  
Occurrence of single-electron phenomenon in CdS nanoclusters in Langmuir-Blodgett films of *n*-octadecyl succinic acid 487
- Cellular radiosensitivity  
Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705
- Charge transfer  
Bending crystals. Solid state photomechanical properties of transition metal complexes containing semiquinonate ligands 247
- Chelate effect  
Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands 347
- Chiral phosphorous ligands  
Organometallic chemistry of chiral diphosphazane ligands: Synthesis and structural characterisation 233
- Chiral Schiff-base  
Half-sandwich (*h*<sup>6</sup>-arene) ruthenium(II) chiral Schiff base complexes: Analysis of the diastereomeric mixtures in solution by 2D-NMR spectroscopy 461
- Chiral tri-ruthenium clusters  
Organometallic chemistry of chiral diphosphazane ligands: Synthesis and structural characterisation 233
- Chloride brine  
Radiolysis and corrosion of <sup>238</sup>Pu-doped UO<sub>2</sub> pellets in chloride brine 697
- C-N rotational barriers  
Theoretical studies on electron delocalisation in selenourea 223
- Competition reactions  
Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands 347
- Complex equilibria  
Mixed ligand complex formation of Fe<sup>III</sup> with boric acid and typical N-donor multidentate ligands 163
- Conducting polymer  
Effects of preparation temperature on the conductivity of polypyrrole conducting polymer 155
- Copper(II) complexes  
Copper complexes as chemical nucleases 391  
Copper(II) complexes with aroylhydrazones 417
- Correlation analysis  
Kinetics and mechanism of the oxidation of organic sulphides 2,2'-bipyridinium chlorochromate 137
- Crystal structure  
Synthesis and characterization of a reduced heteropolytungstovanadate: (NH<sub>4</sub>)<sub>7</sub>[V<sup>V</sup>O<sub>4</sub>W<sub>10</sub><sup>VI</sup>V<sub>2</sub><sup>IV</sup>O<sub>36</sub>].ca.22H<sub>2</sub>O 107  
Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties 269  
Copper(II) complexes with aroylhydrazones 417

- Cu(I) complexes  
Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands 347
- Cyanine dyes  
Synthesis and absorption–structure relationships of some new photosensitizer cyanine dyes 125
- Cycloaddition  
Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- Cyclodextrin  
Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431
- Diastereomeric mixtures  
Half-sandwich (*h*<sup>6</sup>-arene) ruthenium(II) chiral Schiff base complexes: Analysis of the diastereomeric mixtures in solution by 2D-NMR spectroscopy 461
- b**-Diketone  
Oxidation reactions of 1,3-diphenylpropane-1,3-dione 739
- b**-Diketone-linked complexes  
Catalytic effects of poly(methyl methacrylate)-supported **b**-diketone-linked palladium complexes in olefin oxidation 481
- Dimethylglyoxime  
Coenzyme B<sub>12</sub> model studies: Equilibrium constants for the *pH*-dependent axial ligation of benzyl(aquo)cobaloxime by various N- and S-donor ligands 1
- Diphosphazanes  
Organometallic chemistry of chiral diphosphazane ligands: Synthesis and structural characterisation 233
- Dipicolinate  
Dipicolinate complexes of main group metals with hydrazinium cation 25
- Direct excitation  
Regioselective *E(trans)*–*Z(cis)* photoisomerization in naphthylidene derivatives 603
- Diruthenium complexes  
Bridging function mediated intermetallic coupling in diruthenium-*bis*(bipyridine) complexes 443
- DNA  
Interaction between an 8-methoxypyrimido [4',5':4,5] thieno(2,3-*b*)quinoline-4(3H)one antitumour drug and deoxyribonucleic acid 687
- DNA binding  
Copper complexes as chemical nucleases 391  
New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding 403
- DPH fluorescence  
Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705
- Dynamics of photoisomerization  
Photoisomerization of merocyanine 540 in polymer-surfactant aggregate 83
- Electrochemical polymerization  
Effects of preparation temperature on the conductivity of polypyrrole conducting polymer 155
- Electrochemistry  
Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties 269
- Electrochromism  
Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291
- Electron delocalisation  
Theoretical studies on electron delocalisation in selenourea 223
- Electron spin resonance  
Photoinduced electron transfer of chlorophyll in lipid bilayer system 533
- Energy transfer  
A new family of donor-acceptor systems comprising tin(IV) porphyrin and anthracene subunits: Synthesis, spectroscopy and energy transfer studies 565
- EPR  
Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation 473
- Equilibrium constants  
Equilibria and kinetics for *pH*-dependent axial ligation of alkyl(aquo) cobaloximes with aromatic and aliphatic N-donor ligands 11
- Equilibrium study  
Potentiometric and spectrometric study: Copper(II), nickel(II) and zinc(II) complexes with potentially tridentate and monodentate ligands 115
- Ethylbenzene  
Vapour phase alkylation of ethylbenzene with *t*-butyl alcohol over mesoporous Al-MCM-41 molecular sieves 203
- Excited state absorption  
Optical nonlinearity of organic dyes as studied by Z-scan and transfer grating techniques 557
- Excited state relaxation  
Optical nonlinearity of organic dyes as studied by Z-scan and transfer grating techniques 557

- First order and second order decay kinetics  
 Photophysical properties of 5-hydroxyindole (5HI): Laser flash photolysis study 547
- Five-membered chelate ring  
 Thiosemicarbozene complexes of platinum metals. A story of variable coordination modes 255
- Fluorescence  
 Protein scissors: Photocleavage of proteins at specific locations 579  
 Regioselective *E(trans)*–*Z(cis)* photoisomerization in naphthylidene derivatives 603
- Fluorescence depolarization  
 Isomerization and fluorescence depolarisation of merocyanine 540 in polyacrylic acid. Effect of *pH* 501
- Fluorescence enhancement  
 New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding 403  
 Fluorescence signalling of the transition metal ions: Design strategy based on the choice of the fluorophore component 539
- Fluorescence quenching  
 Interaction between an 8-methoxypyrimido [4',5':4,5] thieno(2,3-*b*)quinoline-4(3H) one antitumour drug and deoxyribonucleic acid 687
- Fluorosensor  
 Fluorescence signalling of the transition metal ions: Design strategy based on the choice of the fluorophore component 539
- Formamide–ethylene glycol mixture  
 Density and viscosity of magnesium sulphate formamide + ethylene glycol mixed solvents 495
- Four-membered chelate rings  
 Thiosemicarbozene complexes of platinum metals. A story of variable coordination modes 255
- Geoelectrophoresis  
 Protein scissors: Photocleavage of proteins at specific locations 579
- Gene transfection  
 Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone 197
- Glycerol backbone  
 Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone 197
- Glycylvaline  
 Interactions between oxovanadium(IV), glycylvaline and imidazoles: An aqueous potentiometric and spectrometric study 37
- Gold nano-particles  
 Synthesis of a stable gold hydrosol by the reduction of chloroaurate ions by the amino acid, aspartic acid 513
- Grignard reagent  
 Transition metal catalysed Grignard-like allylic activation across tetragonal tin(II) oxide 277
- Ground state bleaching  
 A transient absorption study of allophycocyanin 611
- Half-sandwich ruthenium complexes  
 Organometallic chemistry of chiral diphosphazane ligands: Synthesis and structural characterisation 233
- Halochromates  
 Kinetics and mechanism of the oxidation of organic sulphides 2,2'-bipyridinium chlorochromate 137
- a*-Halobenzyl carbocations  
 Lifetimes of *a*-halo and *a*-azidobenzyl carbocations in aqueous solution 47
- Hammert equation  
 An analysis on the transmission of electron density through sulphur atoms in the quarterization reactions of benzothiazoles 55
- Heptaphyrins  
 Inverted porphyrins and expanded porphyrins: An overview 311
- Heteropoly blues  
 EPR investigations of electron transfer in one-electron reduced *a*-1,4 K<sub>5</sub>[PV<sub>2</sub>W<sub>10</sub>O<sub>40</sub>].3H<sub>2</sub>O 75
- Heteropolytungstovanadate  
 Synthesis and characterization of a reduced heteropolytungstovanadate: (NH<sub>4</sub>)<sub>7</sub>[V<sup>V</sup>O<sub>4</sub>W<sub>10</sub><sup>VI</sup>V<sub>2</sub><sup>IV</sup>O<sub>36</sub>].ca.22H<sub>2</sub>O 107
- Histamine  
 Equilibria and kinetics for *pH*-dependent axial ligation of alkyl(aquo) cobaloximes with aromatic and aliphatic N-donor ligands 11
- Histidine  
 Equilibria and kinetics for *pH*-dependent axial ligation of alkyl(aquo) cobaloximes with aromatic and aliphatic N-donor ligands 11
- Homo/hetero binuclear complexes  
 Potentiometric and spectrometric study: Copper(II), nickel(II) and zinc(II) complexes with potentially tridentate and monodentate ligands 115

- HSAB  
Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands 347
- Hybrid telluroether  
Organotellurium ligands – designing and complexation reactions 357
- Hydrazinium  
Dipicolinate complexes of main group metals with hydrazinium cation 25
- Hydride ligands  
Chemistry of dihydrogen complexes containing only phosphorous co-ligands 285
- Hydrogen  
Chemistry of dihydrogen complexes containing only phosphorous co-ligands 285
- Hydrogen atom  
Direct optical observation of the formation of some aliphatic alcohol radicals. A pulse radiolysis study 731
- Hydrogen bonding  
Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- Hydrothermal synthesis  
A new layered iron fluorophosphate 93
- Hydroxyl radicals  
Direct optical observation of the formation of some aliphatic alcohol radicals. A pulse radiolysis study 731  
Effect of electron-withdrawing power of the substituted group on  $\cdot\text{OH}$  radical reaction with substituted aryl sulphides: A pulse radiolysis 749
- o*- and *m*-Hydroxycinnamic acids  
Redox chemistry of *o*- and *m*-hydroxycinnamic acids: A pulse radiolysis study 721
- Imidazole  
Coenzyme B<sub>12</sub> model studies: Equilibrium constants for the *pH*-dependent axial ligation of benzyl(aquo)cobaloxime by various N- and S-donor ligands 1  
Equilibria and kinetics for *pH*-dependent axial ligation of alkyl(aquo) cobaloximes with aromatic and aliphatic N-donor ligands 11  
Interactions between oxovanadium(IV), glycylvaline and imidazoles: An aqueous potentiometric and spectrometric study 37  
Potentiometric and spectrometric study: Copper(II), nickel(II) and zinc(II) complexes with potentially tridentate and monodentate ligands 115
- Imine to imidate transformations  
Copper(II) complexes with aroylhydrazones 417
- Immunomodulator  
An immunomodulator from *Tinospora cordifolia* with antioxidant activity in cell-free systems 713
- Inclusion complex  
Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431
- Indol-2,3-dione  
A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- Induced absorption  
A transient absorption study of allophycocyanin 611
- Interactive binding  
Interaction between an 8-methoxypyrimido [4',5':4,5] thieno(2,3-*b*)quinoline-4(3H) one antitumour drug and deoxyribonucleic acid 687
- Intermetallic coupling  
Bridging function mediated intermetallic coupling in diruthenium-*bis*(bipyridine) complexes 443
- Inter-molecular reactions  
Copper(II) complexes with aroylhydrazones 417
- Internal conversion  
A transient absorption study of allophycocyanin 611
- Intervalence charge transfer  
Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431
- Intramolecular charge transfer  
Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems 593
- Inverted porphyrins  
Inverted porphyrins and expanded porphyrins: An overview 311
- Ion-exchanger  
Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- IRMPD  
Control strategies for laser separation of carbon isotopes 639
- Ishwarone  
Five decades in the study of natural products 175
- a*-1,2 Isomer  
EPR investigations of electron transfer in one-electron reduced *a*-1,4 K<sub>5</sub>[PV<sub>2</sub>W<sub>10</sub>O<sub>40</sub>].3H<sub>2</sub>O 75

- a-1,4 Isomer**  
 EPR investigations of electron transfer in one-electron reduced **a**-1,4  $K_5[PV_2W_{10}O_{40}].3H_2O$  75
- Isotope separation**  
 Maximization of yield of C-13 isotope by multiphoton dissociation of Freon-22 using high average power TEA CO<sub>2</sub> laser 659
- Keggin type anion**  
 Synthesis and characterization of a reduced heteropolytungstovanadate:  $(NH_4)_7[V^V O_4 W_{10} V_2^{IV} O_{36}].ca.22H_2O$  107
- Langmuir–Blodgett films**  
 Occurrence of single-electron phenomenon in CdS nanoclusters in Langmuir–Blodgett films of *n*-octadecyl succinic acid 487
- Large amplitude motion**  
 Origin of methyl torsional potential barrier – An overview 623
- Laser enrichment**  
 Control strategies for laser separation of carbon isotopes 639
- Laser isotope separation**  
 Modelling of multifrequency IRMPD for laser isotope separation 649
- Layered iron phosphate**  
 A new layered iron fluorophosphate 93
- Leaching**  
 Radiolysis and corrosion of <sup>238</sup>Pu-doped UO<sub>2</sub> pellets in chloride brine 697
- Lifetimes**  
 Lifetimes of **a**-halo and **a**-azidobenzyl carbocations in aqueous solution 47
- Lipid peroxidation**  
 Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705  
 Oxidation reactions of 1,3-diphenylpropane-1,3-dione 739
- Liposomal membrane**  
 Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705
- Lysozyme**  
 Protein scissors: Photocleavage of proteins at specific locations 579
- Macrocycles**  
 Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- Magnesium sulphate**  
 Density and viscosity of magnesium sulphate formamide + ethylene glycol mixed solvents 495
- Magnetic exchange**  
 Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291
- Magnetic properties**  
 Copper(II) complexes with aroylhydrazones 417
- Main group metals**  
 Dipicolinate complexes of main group metals with hydrazinium cation 25
- Membrane oxidative damage**  
 Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705
- Membranes**  
 Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone 197
- Mesoporous molecular sieves**  
 Vapour phase alkylation of ethylbenzene with *t*-butyl alcohol over mesoporous Al-MCM-41 molecular sieves 203
- Metal promoted reactions**  
 Design and synthesis of multidentate ligands via metal promoted C–N bond formation processes and their coordination chemistry 339
- Metal(II)**  
 Potentiometric and spectrometric study: Copper(II), nickel(II) and zinc(II) complexes with potentially tridentate and monodentate ligands 115
- Metal-assisted reactions**  
 Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties 269
- Metal-mediated transformations**  
 Bridging function mediated intermetallic coupling in diruthenium-*bis*(bipyridine) complexes 443
- 8-Methoxy pyrimido[4',5':4:5]thieno (2,3-*b*)quinoline-4(3H)one**  
 Interaction between an 8-methoxypyrimido [4',5':4,5] thieno(2,3-*b*)quinoline-4(3H) one antitumour drug and deoxyribonucleic acid 687
- Methyl rotation**  
 Partitioning of methyl internal rotational barrier energy of thioacetaldehyde 61
- Methyl torsion**  
 Origin of methyl torsional potential barrier – An overview 623
- Methyl torsional barrier**  
 Origin of methyl torsional potential barrier – An overview 623

- Mixed ligand-Fe<sup>III</sup>-bromate complexes  
 Mixed ligand complex formation of Fe<sup>III</sup> with boric acid and typical N-donor multidentate ligands 163
- Mixed valence complexes  
 Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431
- Modified phenanthroline ligand  
 New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding 403
- Molecular modelling  
 Thiosemicarbozene complexes of platinum metals. A story of variable coordination modes 255
- Molybdenum  
 Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291
- Multifrequency multiphoton dissociation  
 Modelling of multifrequency IRMPD for laser isotope separation 649
- Naphthylidene derivatives  
 Regioselective *E*(*trans*)-*Z*(*cis*) photoisomerization in naphthylidene derivatives 603
- Natural bond orbitals  
 Partitioning of methyl internal rotational barrier energy of thioacetaldehyde 61
- Natural products  
 Five decades in the study of natural products 175
- NBO analysis  
 Theoretical studies on electron delocalisation in selenourea 223
- N-confused porphyrins  
 Inverted porphyrins and expanded porphyrins: An overview 311
- N-donor multidentate ligands  
 Mixed ligand complex formation of Fe<sup>III</sup> with boric acid and typical N-donor multidentate ligands 163
- Nematic  
 Liquid crystalline behaviour of mixtures of structurally dissimilar mesogens in binary systems 213
- Neutral radical  
 Photophysical properties of 5-hydroxyindole (5HI): Laser flash photolysis study 547
- New *bis* chelating N,N,N-donors  
 Design and synthesis of multidentate ligands via metal promoted C–N bond formation processes and their coordination chemistry 339
- N-inversion barriers  
 Theoretical studies on electron delocalisation in selenourea 223
- Nitrosyl  
 Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291
- NMR spectroscopy  
 Chemistry of dihydrogen complexes containing only phosphorous co-ligands 285
- 2D-NMR spectroscopy  
 Half-sandwich (*h*<sup>6</sup>-arene) ruthenium(II) chiral Schiff base complexes: Analysis of the diastereomeric mixtures in solution by 2D-NMR spectroscopy 461
- Non-innocence  
 Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291
- Nonlinear refractive index  
 Optical nonlinearity of organic dyes as studied by Z-scan and transfer grating techniques 557
- Non-mesomorphic  
 Liquid crystalline behaviour of mixtures of structurally dissimilar mesogens in binary systems 213
- Non-scissile linkages  
 Synthesis of novel cationic lipids with fully or partially non-scissile linkages between the hydrocarbon chains and pseudoglycerol backbone 197
- Nuclease activity  
 Copper complexes as chemical nucleases 391
- n*-Octadecyl succinic acid  
 Occurrence of single-electron phenomenon in CdS nanoclusters in Langmuir–Blodgett films of *n*-octadecyl succinic acid 487
- Octaphyrins  
 Inverted porphyrins and expanded porphyrins: An overview 311
- OH• and N<sub>3</sub>•-radicals  
 Redox chemistry of *o*- and *m*-hydroxycinnamic acids: A pulse radiolysis study 721
- Olefin oxidation  
 Catalytic effects of poly(methyl methacrylate)-supported *b*-diketone-linked palladium complexes in olefin oxidation 481
- Open-framework materials  
 A new layered iron fluorophosphate 93
- Optical electron transfer  
 Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431

- Organic sulphides  
 Kinetics and mechanism of the oxidation of organic sulphides 2,2'-bipyridinium chlorochromate 137
- Organotellurium ligands  
 Organotellurium ligands – designing and complexation reactions 357
- Orientation dependence  
 A new family of donor-acceptor systems comprising tin(IV) porphyrin and anthracene subunits: Synthesis, spectroscopy and energy transfer studies 565
- Oxidation  
 Oxidation reactions of 1,3-diphenylpropane-1,3-dione 739
- Oxidation catalysis  
 Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- Oxidation of DMSO  
 Kinetics and mechanism of oxidation of dimethylsulphoxide sodium bromate–sodium bisulphite reagent in aqueous medium 149
- Oxovanadium(IV)  
 Interactions between oxovanadium(IV), glycylvaline and imidazoles: An aqueous potentiometric and spectrometric study 37
- Oxygen atom  
 Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO<sub>2</sub> at 222.4 nm 675
- Palladium complexes  
 Catalytic effects of poly(methyl methacrylate)-supported *b*-diketone-linked palladium complexes in olefin oxidation 481
- Pauling exchange interaction  
 Partitioning of methyl internal rotational barrier energy of thioacetaldehyde 61
- Pentacoordinate phosphorous  
 Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- 1-Phenyl-3-methyl-5-pyrazoline  
 A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- 3-Phenyl-5-isoxazolone  
 A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- Phosphates  
 Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- Phosphonates  
 Chemistry of selected cyclic P(III) compounds possessing a P–Cl bond 367
- Photocleavage  
 Protein scissors: Photocleavage of proteins at specific locations 579
- Photocatalysis  
 Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- Photocatalytic  
 Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems 593
- Photochemical irradiation  
 A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- Photodissociation dynamics  
 Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO<sub>2</sub> at 222.4 nm 675
- Photoinduced charged separation  
 Photoinduced electron transfer of chlorophyll in lipid bilayer system 533
- Photoinduced electron transfer  
 Photophysical properties of 5-hydroxyindole (5HI): Laser flash photolysis study 547
- Photoisomerization  
 Isomerization and fluorescence depolarisation of merocyanine 540 in polyacrylic acid. Effect of pH 501
- Photomechanical property  
 Bending crystals. Solid state photomechanical properties of transition metal complexes containing semiquinone ligands 247
- Photosensitisation  
 An immunomodulator from *Tinospora cordifolia* with antioxidant activity in cell-free systems 713
- Photosensitive molecule  
 Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems 593
- Photosensitizer dyes  
 Synthesis and absorption–structure relationships of some new photosensitizer cyanine dyes 125
- Platinum metals  
 Thiosemicarbozene complexes of platinum metals. A story of variable coordination modes 255

- Platinum metal complexes  
 Organotellurium ligands – designing and complexation reactions 357
- Poly(methyl methacrylate) support  
 Catalytic effects of poly(methyl methacrylate)-supported *b*-diketone-linked palladium complexes in olefin oxidation 481
- Polymer-surfactant aggregate  
 Photoisomerization of merocyanine 540 in polymer-surfactant aggregate 83
- Polypyrrole  
 Effects of preparation temperature on the conductivity of polypyrrole conducting polymer 155
- Primary amine  
 Coenzyme B<sub>12</sub> model studies: Equilibrium constants for the *pH*-dependent axial ligation of benzyl(aquo)cobaloxime by various N- and S-donor ligands 1
- Pulse radiolysis  
 Redox chemistry of *o*- and *m*-hydroxycinnamic acids: A pulse radiolysis study 721  
 Oxidation reactions of 1,3-diphenylpropane-1,3-dione 739  
 Effect of electron-withdrawing power of the substituted group on <sup>•</sup>OH radical reaction with substituted aryl sulphides: A pulse radiolysis 749
- Pyridinecarboxaldehyde  
 Is copper(I) really soft? Probing the hardness of Cu(I) with pyridinecarboxaldehyde ligands 347
- Quantum yield  
 Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO<sub>2</sub> at 222.4 nm 675
- Quaternization reaction  
 An analysis on the transmission of electron density through sulphur atoms in the quaternization reactions of benzothiazoles 55
- a**-Radiolysis  
 Radiolysis and corrosion of <sup>238</sup>Pu-doped UO<sub>2</sub> pellets in chloride brine 697
- Radiolysis product  
 Radiolysis and corrosion of <sup>238</sup>Pu-doped UO<sub>2</sub> pellets in chloride brine 697
- Rate constant  
 Direct optical observation of the formation of some aliphatic alcohol radicals. A pulse radiolysis study 731
- Redox  
 Bridging function mediated intermetallic coupling in diruthenium-*bis*(bipyridine) complexes 443
- Reduction  
 Synthesis and characterization of a reduced heteropolytungstovanadate: (NH<sub>4</sub>)<sub>7</sub>[V<sup>V</sup>O<sub>4</sub>W<sub>10</sub>V<sup>IV</sup>V<sub>2</sub>O<sub>36</sub>].ca.22H<sub>2</sub>O 107
- Reduction by amino acids  
 Synthesis of a stable gold hydrosol by the reduction of chloroaurate ions by the amino acid, aspartic acid 513
- Regioselective photoisomerization  
 Regioselective *E(trans)*–*Z(cis)* photoisomerization in naphthylidene derivatives 603
- Rotaxane  
 Intervalence charge transfer transition in mixed valence complexes synthesised from Ru<sup>III</sup>(edta)- and Fe<sup>II</sup>(CN)<sub>5</sub>-cores 431
- Rubyryns  
 Inverted porphyrins and expanded porphyrins: An overview 311
- Ruthenium  
 Chemistry of dihydrogen complexes containing only phosphorous co-ligands 285
- Ruthenium(II) complexes  
 New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding 403
- Ruthenium(II), osmium(II) and rhodium(III)/(II) complexes  
 Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties 269
- Selective oxidation  
 Novel vanadium phosphate phases as catalysts for selective oxidation 379
- Selenourea  
 Theoretical studies on electron delocalisation in selenourea 223
- Self-assembly  
 Copper(II) complexes with aroylhydrazones 417
- Semiconductor  
 Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems 593
- Semiquinonate  
 Bending crystals. Solid state photo-mechanical properties of transition metal complexes containing semiquinonate ligands 247
- Serum albumin  
 Protein scissors: Photocleavage of proteins at specific locations 579

- Single-electron phenomenon  
 Occurrence of single-electron phenomenon in CdS nanoclusters in Langmuir–Blodgett films of *n*-octadecyl succinic acid 487
- Singlet excited state  
 Regioselective *E(trans)*–*Z(cis)* photoisomerization in naphthylidene derivatives 603
- Smectic A  
 Liquid crystalline behaviour of mixtures of structurally dissimilar mesogens in binary systems 213
- Sodium bromate–sodium bisulphite reagent  
 Kinetics and mechanism of oxidation of dimethylsulphoxide sodium bromate–sodium bisulphite reagent in aqueous medium 149
- Soft–soft interactions  
 Coenzyme B<sub>12</sub> model studies: Equilibrium constants for the pH-dependent axial ligation of benzyl(aquo)cobaloxime by various N- and S-donor ligands 1
- Solvolysis  
 Lifetimes of *a*-halo and *a*-azidobenzyl carbocations in aqueous solution 47
- Spectral characterization  
 A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- Spectral characterization  
 Synthesis and characterization of a reduced heteropolytungstovanadate: (NH<sub>4</sub>)<sub>7</sub>[V<sup>V</sup>O<sub>4</sub>W<sub>10</sub><sup>VI</sup>V<sub>2</sub><sup>IV</sup>O<sub>36</sub>].ca.22H<sub>2</sub>O 107
- Spectroelectrochemistry  
 Innocent or guilty? Redox activity in and magnetic and optical behaviour of dinuclear molybdenum complexes 291  
 Bridging function mediated intermetallic coupling in diruthenium-*bis*(bipyridine) complexes 443
- Spectroscopy  
 New mixed ligand complexes of ruthenium(II) that incorporate a modified phenanthroline ligand: Synthesis, spectral characterization and DNA binding 403  
 A new family of donor-acceptor systems comprising tin(IV) porphyrin and anthracene subunits: Synthesis, spectroscopy and energy transfer studies 565
- Spin-hamiltonian parameters  
 Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation 473
- Stimulated emission  
 A transient absorption study of allophycocyanin 611
- Structure modification  
 Novel vanadium phosphate phases as catalysts for selective oxidation 379
- Substitutional incorporation  
 Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation 473
- Sulphur dioxide  
 Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO<sub>2</sub> at 222.4 nm 675
- Surface modifications  
 Synthesis of a stable gold hydrosol by the reduction of chloroaurate ions by the amino acid, aspartic acid 513
- TEA CO<sub>2</sub> laser  
 Maximization of yield of C-13 isotope by multiphoton dissociation of Freon-22 using high average power TEA CO<sub>2</sub> laser 659
- Tellurium-125 NMR  
 Organotellurium ligands – designing and complexation reactions 357
- Thermal analysis  
 Dipicolinate complexes of main group metals with hydrazinium cation 25
- Thioacetaldehyde  
 Partitioning of methyl internal rotational barrier energy of thioacetaldehyde 61
- Thiosemicarbazone complexes  
 Thiosemicarbazone complexes of platinum metals. A story of variable coordination modes 255
- 2-Thiozoline-2-thiol  
 A comprehensive approach to the photochemical synthesis of bioactive compounds by the reaction of oxazolidine, thiazolidine and pyrazolidine derivatives with indol-2,3-diones 523
- Thymocyte membrane permeability  
 Fluorescence studies on radiation oxidative damage to membranes with implications to cellular radiosensitivity 705
- Tiliacorine  
 Five decades in the study of natural products 175
- Tin (II) oxide  
 Transition metal catalysed Grignard-like allylic activation across tetragonal tin(II) oxide 277
- Tin (IV) porphyrin  
 A new family of donor-acceptor systems comprising tin(IV) porphyrin and anthracene subunits: Synthesis, spectroscopy and energy transfer studies 565

- Tinospora cordifolia*  
An immunomodulator from *Tinospora cordifolia* with antioxidant activity in cell-free systems 713
- TiO<sub>2</sub>/Y-zeolite  
Photoinduced electron transfer in some photosensitive molecules-incorporated semiconductor/zeolites: New photocatalytic systems 593
- Titanium phosphate  
Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- Transient absorption  
Photophysical properties of 5-hydroxyindole (5HI): Laser flash photolysis study 547  
A transient absorption study of allophycocyanin 611
- Transient absorption spectra  
Redox chemistry of *o*- and *m*-hydroxycinnamic acids: A pulse radiolysis study 721
- Transient grating  
Optical nonlinearity of organic dyes as studied by Z-scan and transfer grating techniques 557
- Transition metal  
Bending crystals. Solid state photo-mechanical properties of transition metal complexes containing semiquinone ligands 247
- Transition metal chemistry  
Design and synthesis of multidentate ligands via metal promoted C–N bond formation processes and their coordination chemistry 339
- Transition metal ions  
Fluorescence signalling of the transition metal ions: Design strategy based on the choice of the fluorophore component 539
- Triplet sensitization  
Regioselective *E(trans)*–*Z(cis)* photoisomerization in naphthylidene derivatives 603
- 2,4,6-*Tris*(2-pyridyl)-1,3,5-triazine  
Ruthenium, osmium and rhodium complexes of polypyridyl ligands: Metal-promoted activities, stereochemical aspects and electrochemical properties 269
- Tritium separation  
Modelling of multifrequency IRMPD for laser isotope separation 649
- Tylophora alkaloids  
Five decades in the study of natural products 175
- Uncoiling  
Isomerization and fluorescence depolarisation of merocyanine 540 in polyacrylic acid. Effect of pH 501
- UO<sub>2</sub>  
Radiolysis and corrosion of <sup>238</sup>Pu-doped UO<sub>2</sub> pellets in chloride brine 697
- UV absorption  
Direct optical observation of the formation of some aliphatic alcohol radicals. A pulse radiolysis study 731
- Vanadium phosphate  
Novel vanadium phosphate phases as catalysts for selective oxidation 379
- Variable coordination  
Thiosemicarbozene complexes of platinum metals. A story of variable coordination modes 255
- Vesicles  
Photoinduced electron transfer of chlorophyll in lipid bilayer system 533
- VO(II)  
Single crystal EPR study of VO(II)-doped cadmium potassium phosphate hexahydrate: A substitutional incorporation 473
- VUV-LIF  
Absolute quantum yield measurements for the formation of oxygen atoms after UV laser excitation of SO<sub>2</sub> at 222.4 nm 675
- Zeolite  
Mesoporous titanium phosphates and related molecular sieves: Synthesis, characterization and applications 451
- Z-scan  
Optical nonlinearity of organic dyes as studied by Z-scan and transfer grating techniques 557