

SUBJECT INDEX

- π -donor molecules
Metal selective co-ordinative self-assembly of π -donors 773
- π -stacking
Comparative self-assembly studies and self-sorting of two structurally isomeric naphthalene-diimide (NDI)-gelators 963
- π -Stacking
 π -Stacking interactions between G-quartets and circulenes: A computational study 891
- (-)-Wodeshiol
An efficient asymmetric synthesis of (-)-wodeshiol 327
- 1-hydroxy benzotriazole
Self-assembled microtubes and rhodamine 6G functionalized Raman-active gold microrods from 1-hydroxybenzotriazole 247
- 1-Methylindole
Diversity in electrochemical oxidation of dihydroxybenzenes in the presence of 1-methylindole 709
- 1,2-diamines
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- 1,2-dicarbonyls
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- 1,2,4-triazole
A facile microwave-assisted synthesis of 8,9-cycloalkathieno[3,2-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5(6*H*)-ones 69
Silver complexes of 1,2,4-triazole derived N-heterocyclic carbenes: Synthesis, structure and reactivity studies 97
- 1,2,4-Triazole
An expeditious green synthesis of Schiff bases and azetidiones derivatised with 1,2,4-triazoles 657
- 1,3-thiazolidin-2,4-diones
An efficient synthesis, X-ray and spectral characterization of biphenyl derivatives 393
- 1,3,4-oxadiazole
An efficient synthesis, X-ray and spectral characterization of biphenyl derivatives 393
- 1,3,4-triazole
An efficient synthesis, X-ray and spectral characterization of biphenyl derivatives 393
- 2-hydroxy benzaldehydes
Nitroketene dithioacetal chemistry: Synthesis of coumarins incorporating nitrothiophene moiety 411
- 2-Hydroxybenzamides
Proximity effect on the general base catalysed hydrolysis of amide linkage: The role of cationic surfactant, CTABr 497
- 2,4,7-trinitrofluorenone
Pyrene appended bile acid conjugates: Synthesis and a structure–gelation property study 379
- 3,4-dihydroxyphenylacetic acid
Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic and uric acids using polymer film modified electrode 349
- 3-cyanoacetylindole
Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolynitrile catalysed by PPh₃ 609
- 3-nitrothiophenes
Nitroketene dithioacetal chemistry: Synthesis of coumarins incorporating nitrothiophene moiety 411
- 4-chloro-3-formylcoumarin
An efficient ultrasound promoted catalyst-free protocol for the synthesis of chromeno[4,3-*b*]quinolin-6-ones 673
- 4-hydroxycoumarins
Facile solvent-free one-pot synthesis of pyranobenzopyrans and their derivatives 667
- 4-*tert*-butylstyryl
High spectral response heteroleptic ruthenium (II) complexes as sensitizers for dye sensitized solar cells 37
- 5-Amino-1,3,4-thiadiazole-2-thiol
Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic and uric acids using polymer film modified electrode 349
- Ac-impedance spectroscopy
Synthesis, structure and ionic conductivity in scheelite type Li_{0.5}Ce_{0.5-x}Ln_xMoO₄ (*x* = 0 and 0.25, Ln = Pr, Sm) 5
- Acetal
Investigation of Prins reaction for the synthesis of 2, 4-disubstituted tetrahydropyran derivatives and 1, 3-dioxanes using polyaniline supported acid as reusable catalyst 623
- Acetyl glycine
Design, synthesis and antidiabetic evaluation of oxazolone derivatives 335
- Acetylacetonato
Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Activation parameters
Kinetics and mechanism of the ligand substitution reaction of di- μ -hydroxobis(bipyridyl)dipalladium(II) ion with diethyldithiocarbamate anion in aqueous solution 311
- Adenine ribbon
Nucleobase assemblies supported by uranyl cation coordination and other non-covalent interactions 927
- Adsorption
A density functional study on the adsorption of hydrogen molecule onto small copper clusters 743

- Aerobic oxidation
Cobalt(III)-oxo cubane clusters as catalysts for oxidation of organic substrates 163
- Alcohols
Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Alkali metal complex
Optical detection of sodium salts of fluoride, acetate and phosphate by a diacylhydrazine ligand by the formation of a colour alkali metal complex 869
- Alkaloid
Quinolizidines alkaloids: Petrosin and xestospongins from the sponge *Oceanapia* sp. 601
- Alkylaromatic oxidation
Cobalt(III)-oxo cubane clusters as catalysts for oxidation of organic substrates 163
- All-electron scalar relativistic calculation
A density functional study on the adsorption of hydrogen molecule onto small copper clusters 743
- Allylic alcohols
A new method for the chemoselective reduction of aldehydes and ketones using boron tri-isopropoxide, B(O^{*i*}Pr)₃: Comparison with boron tri-ethoxide, B(OEt)₃ 681
- Amberlyst A-15
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- Amido-functionalized NHC
Ruthenium complexes of chelating amido-functionalized N-heterocyclic carbene ligands: Synthesis, structure and DFT studies 791
- Amidoalkyl naphthol
Zeolite H-BEA catalysed multicomponent reaction: One-pot synthesis of amidoalkyl naphthols – Biologically active drug-like molecules 427
- Amine
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- Amine catalysed dimerization
Synthesis of steroidal dimers: Selective amine catalysed steroidal dimerization 491
- Amine-free
Di(1*H*-benzo[*d*][1,2,3]triazol-1-yl)methane: An efficient ligand for copper and amine-free palladium-catalysed Sonogashira coupling reaction 937
- Aminothiazole
Synthesis of new series of N-3-[-{2-(substituted phenyl)-4-oxo-5-(substituted benzyldiene)-1,3-thiazolidine}-carbonyl]-propyl-2-aminothiazole and their biological importance 631
- Ammonium salt
Nitration of phenolic compounds and oxidation of hydroquinones using tetrabutylammonium chromate and dichromate under aprotic conditions 63
- Amperometry
Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic and uric acids using polymer film modified electrode 349
- Anderson-type heteropolyanion
Polyoxometalates: Toward new materials 229
- Anilines
An efficient ultrasound promoted catalyst-free protocol for the synthesis of chromeno[4,3-*b*]quinolin-6-ones 673
- Anion receptor
Urea/thiourea derivatives and Zn(II)-DPA complex as receptors for anionic recognition—A brief account 175
- Anion sensing
Optical detection of sodium salts of fluoride, acetate and phosphate by a diacylhydrazine ligand by the formation of a colour alkali metal complex 869
- Anomalous electrodeposition
Textural and morphological studies on zinc–iron alloy electrodeposits 357
- Antibacterial activity
Synthesis of 4-aryl-4,5-dihydro-1*H*-indeno[1,2-*d*]pyrimidines by Biginelli condensation and their antibacterial activities 443
- Antifungal study
Ruthenium(II) carbonyl complexes containing chalconates and triphenylphosphine/arsine 567
- Antiinflammatory
Design, synthesis and antidiabetic evaluation of oxazolone derivatives 335
- Antimicrobial
Synthesis of new series of N-3-[-{2-(substituted phenyl)-4-oxo-5-(substituted benzyldiene)-1,3-thiazolidine}-carbonyl]-propyl-2-aminothiazole and their biological importance 631
- Antitubercular
Synthesis of new series of N-3-[-{2-(substituted phenyl)-4-oxo-5-(substituted benzyldiene)-1,3-thiazolidine}-carbonyl]-propyl-2-aminothiazole and their biological importance 631
- Aromatic aldehyde
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- Aryl hydrazides
A facile microwave-assisted synthesis of 8,9-cycloalkathieno [3,2-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5(6*H*)-ones 69
- Aryl isocyanates
Metathesis of carbon dioxide and phenyl isocyanate catalysed by group(IV) metal alkoxides: An experimental and computational study 29
- Arylnitriles
A versatile and an efficient synthesis of 5-substituted-1*H*-tetrazoles 75
- Ascorbic acid
Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic and uric acids using polymer film modified electrode 349

- Asymmetric alkylation
Palladium catalysed asymmetric alkylation of benzophenone Schiff base glycine esters in ionic liquids 467
- Azamacrocycle
Synthesis of azamacrocycle stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875
- Azetidinone
An expeditious green synthesis of Schiff bases and azetidiones derivatised with 1,2,4-triazoles 657
- Azidolysis of epoxide
Biocatalysis of azidolysis of epoxides: Computational evidences on the role of halohydrin dehalogenase (HheC) 279
- Aziridines
S_N2-type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- Benzo[b]furan
Microwave-assisted efficient synthesis of 2-arylbenzo[b]furans and 2-ferrocenylbenzo[b]furans from readily prepared propargylic alcohols and *o*-iodophenols 697
- Benzofuran-3-ol
Resolution of 2,3-dihydro-benzofuran-3-ols 459
- Benzotriazole
Di(1*H*-benzo[*d*][1,2,3]triazol-1-yl)methane: An efficient ligand for copper and amine-free palladium-catalysed Sonogashira coupling reaction 937
- Benzyl
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- Bi-pillared-layer structure
A two-fold interpenetrated flexible bi-pillared-layer framework of Fe(II) with interesting solvent adsorption property 883
- Biginelli reaction
Synthesis of New dihydropyrimidinones catalysed by dicationic ionic liquid 645
- Bile acid
Pyrene appended bile acid conjugates: Synthesis and a structure–gelation property study 379
- Binary solvent mixture
Excited state charge transfer reaction in (mixed solvent + electrolyte) systems: Role of reactant–solvent and reactant–ion interactions 265
- Biocatalysis
Biocatalysis of azidolysis of epoxides: Computational evidences on the role of halohydrin dehalogenase (HheC) 279
- Biological phosphate
Urea/thiourea derivatives and Zn(II)-DPA complex as receptors for anionic recognition—A brief account 175
- Bis*(amido)cyclodiphosphazanes
Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^tBuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861
- Bisdipyrromethane
Interesting reactivity of diketones with pyrrole under acidic condition 593
- Bismuth
Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131
- Bisquinolizidine
Quinolizidines alkaloids: Petrosin and xestospongins from the sponge *Oceanapia* sp. 601
- Boranes
Synthesis and reactivity of dimolybdathiaborane cluster [(Cp*Mo)₂B₄SH₆] (Cp* = η^5 -C₅Me₅) 847
- Boron tri-ethoxide
A new method for the chemoselective reduction of aldehydes and ketones using boron tri-isopropoxide, B(O^{*i*}Pr)₃: Comparison with boron tri-ethoxide, B(OEt)₃ 681
- Boron tri-iso-propoxide
A new method for the chemoselective reduction of aldehydes and ketones using boron tri-isopropoxide, B(O^{*i*}Pr)₃: Comparison with boron tri-ethoxide, B(OEt)₃ 681
- C–C coupling reactions
Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- C–H . . . F interaction
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5-dibenzylidene-piperidin-4-one and database analysis 403
- CAN/KI
Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Canonical transition state theory
Computational study on decomposition kinetics of CH₃CFCIO radical 733
- Carbene radical anion
Theoretical study of the reactivity trends in the Cl-abstraction reactions of CHCl₃ + CHX⁻/CX₂⁻ (X = Cl, Br and I) 755
- Carbenes
Silver complexes of 1,2,4-triazole derived N-heterocyclic carbenes: Synthesis, structure and reactivity studies 97
Ruthenium complexes of chelating amido-functionalized N-heterocyclic carbene ligands: Synthesis, structure and DFT studies 791
- Carbocation
Laser flash photolysis study on 9-phenylxanthenium tetrafluoroborate: Identification of new features due to the triplet state 15

- Carbon-carbon coupling
 $\text{Ce}_{0.98}\text{Pd}_{0.02}\text{O}_{2-\delta}$: Recyclable, ligand free palladium(II) catalyst for Heck reaction 47
- Carboxylate
 Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131
- Catalytic transfer hydrogenation
 Ruthenium(II) carbonyl complexes containing chalconates and triphenylphosphine/arsine 567
- Catalytic oxidation
 Synthesis, spectroscopic characterization and catalytic oxidation properties of ONO/ONS donor Schiff base ruthenium(III) complexes containing $\text{PPh}_3/\text{AsPh}_3$ 319
- Catalytic oxidation
 Ruthenium(II) carbonyl complexes containing chalconates and triphenylphosphine/arsine 567
- Catalyst
 ZnO nanoparticle as catalyst for efficient green one-pot synthesis of coumarins through Knoevenagel condensation 615
- Catalysts
 Structural models of vanadate-dependent haloperoxidases, their reactivity, immobilization on polymer support and catalytic activities 215
- Catechol
 Diversity in electrochemical oxidation of dihydroxybenzenes in the presence of 1-methylindole 709
- Catechol cleavage
 Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Catechol dioxygenases
 Mononuclear non-heme iron(III) complexes of linear and tripodal tridentate ligands as functional models for catechol dioxygenases: Effect of *N*-alkyl substitution on regioselectivity and reaction rate 145
- Ceria
 CO adsorption on ionic Pt, Pd and Cu sites in $\text{Ce}_{1-x}\text{M}_x\text{O}_{2-\delta}$ ($\text{M} = \text{Pt}^{2+}, \text{Pd}^{2+}, \text{Cu}^{2+}$) 509
- Cetyltrimethylammonium hypochlorite
 Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Chain formation
 Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875
- Chemical hardness
 DFT study on structure, electronic properties, and reactivity of *cis*-isomers of $[(\text{NC}_5\text{H}_4\text{-S})_2\text{Fe}(\text{CO})_2]$ 727
- Chemical stereodynamics
 A quasiclassical trajectory analysis of stereodynamics of the $\text{H} + \text{FCl}$ ($\nu = 0 - 3, j = 0 - 3$) $\rightarrow \text{HCl} + \text{F}$ reaction 21
- Chemoselective reduction
 A new method for the chemoselective reduction of aldehydes and ketones using boron tri-isopropoxide, $\text{B}(\text{O}^i\text{Pr})_3$: Comparison with boron tri-ethoxide, $\text{B}(\text{OEt})_3$ 681
- Chiral ionic liquid
 Palladium catalysed asymmetric alkylation of benzophenone Schiff base glycine esters in ionic liquids 467
- Chromate
 Nitration of phenolic compounds and oxidation of hydroquinones using tetrabutylammonium chromate and dichromate under aprotic conditions 63
- Chromeno-quinoline
 An efficient ultrasound promoted catalyst-free protocol for the synthesis of chromeno[4,3-*b*]quinolin-6-ones 673
- Circulenes
 π -Stacking interactions between G-quartets and circulenes: A computational study 891
- Cl-abstraction reaction
 Theoretical study of the reactivity trends in the Cl-abstraction reactions of $\text{CHCl}_3 + \text{CHX}^-/\text{CX}_2^-$ ($\text{X} = \text{Cl}, \text{Br}$ and I) 755
- Click chemistry
 Pendant triazole ring assisted mesogen containing side chain liquid crystalline polymethacrylates: Synthesis and characterization 81
- Closed loop
 A self-supported 40W direct methanol fuel cell system 343
- Cluster
 Two new 1D chains of Ni_2Na_2 heterometallic double half-cubane building units: Synthesis, structures and variable temperature magnetic study 807
 Synthesis and reactivity of dimolybdatiaborane cluster $[(\text{Cp}^*\text{Mo})_2\text{B}_4\text{SH}_6]$ ($\text{Cp}^* = \eta^5\text{-C}_5\text{Me}_5$) 847
- Cobalt
 Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Cobalt sandwich
 Identification and characterization of intermediates in the formation of the cyclobutadiene linked dimeric cobalt sandwich compound $[(\eta^5\text{-RCp})\text{Co}(\eta^4\text{-C}_4\text{Ph}_3)]_2$ [$\text{R} = \text{H}, \text{CH}_3\text{C}(\text{O})\text{O}$] 853
- Cobalt(III) cubane
 Cobalt(III)-oxo cubane clusters as catalysts for oxidation of organic substrates 163
- Colorimetric sensor
 Urea/thiourea derivatives and Zn(II)-DPA complex as receptors for anionic recognition—A brief account 175
- Colourimetric detection
 Optical detection of sodium salts of fluoride, acetate and phosphate by a diacylhydrazine ligand by the formation of a colour alkali metal complex 869
- Computational chemistry
 DFT study on structure, electronic properties, and reactivity of *cis*-isomers of $[(\text{NC}_5\text{H}_4\text{-S})_2\text{Fe}(\text{CO})_2]$ 727

- Condensation
A facile microwave-assisted synthesis of 8,9-cycloalkathieno [3,2-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5(6*H*)-ones 69
- Coordination polymer
Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131
- Coordination polymers
Two new 1D chains of Ni₂Na₂ heterometallic double half-cubane building units: Synthesis, structures and variable temperature magnetic study 807
Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Copper complexes
Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Copper-free
Di(1*H*-benzo[*d*][1,2,3]triazol-1-yl)methane: An efficient ligand for copper and amine-free palladium-catalysed Sonogashira coupling reaction 937
- Core-modified porphyrins
Re(I) bridged porphyrin dyads, triads and tetrads 201
- Coumarin 102
Estimation of interfacial acidity of sodium dodecyl sulfate micelles 909
- Coumarins
Nitroketene dithioacetal chemistry: Synthesis of coumarins incorporating nitrothiophene moiety 411
- Coupling
Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- Crystal structure
Synthesis, properties and supramolecular structure of piperazinediium thiosulfate monohydrate 55
Silver complexes of 1,2,4-triazole derived N-heterocyclic carbenes: Synthesis, structure and reactivity studies 97
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5- dibenzylidene-piperidin-4-one and database analysis 403
Photocatalytic properties of KBiO₃ and LiBiO₃ with tunnel structures 517
- Crystal structures
Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^tBuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861
- Crystallography
Quinolizidines alkaloids: Petrosin and xestospongins from the sponge *Oceanapia* sp. 601
- Cu-complex
Phenalenyl-based ligand for transition metal chemistry: Application in Henry reaction 139
- Cyclic anhydrides
Synthesis of first row transition metal carboxylate complexes by ring opening reactions of cyclic anhydrides 123
- Cyclic voltammetry
Diversity in electrochemical oxidation of dihydroxybenzenes in the presence of 1-methylindole 709
- Cyclobutadiene
Identification and characterization of intermediates in the formation of the cyclobutadiene linked dimeric cobalt sandwich compound [(η^5 -RCp)Co(η^4 -C₄Ph₃)₂] [R = H, CH₃C(O)O] 853
- Decomposition of HCFC
Computational study on decomposition kinetics of CH₃CFCIO radical 733
- Dendrimer aggregation
Utilizing dendritic scaffold for feasible formation of naphthalene excimer 919
- Density functional theory
Biocatalysis of azidolysis of epoxides: Computational evidences on the role of halohydrin dehalogenase (HheC) 279
DFT study of the reactions of Mo and Mo⁺ with CO₂ in gas phase 299
CO adsorption on ionic Pt, Pd and Cu sites in Ce_{1-x}M_xO_{2- δ} (M = Pt²⁺, Pd²⁺, Cu²⁺) 509
- Deprotonation
Optical detection of sodium salts of fluoride, acetate and phosphate by a diacylhydrazine ligand by the formation of a colour alkali metal complex 869
- DFT
Solvothermal synthesis and theoretical study of a polypyridium trimesylate adduct 687
Ruthenium complexes of chelating amido-functionalized N-heterocyclic carbene ligands: Synthesis, structure and DFT studies 791
Two new 1D chains of Ni₂Na₂ heterometallic double half-cubane building units: Synthesis, structures and variable temperature magnetic study 807
- Diastereocontrolled oxygenation
An efficient asymmetric synthesis of (–)-wodeshiol 327
- Dibenzylidene-4-piperidones
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5- dibenzylidene-piperidin-4-one and database analysis 403
- Dicationic ionic liquid
Synthesis of New dihydropyrimidinones catalysed by dicationic ionic liquid 645
- Diethyldithiocarbamate
Kinetics and mechanism of the ligand substitution reaction of di- μ -hydroxobis(bipyridyl)dipalladium(II) ion with diethyldithiocarbamate anion in aqueous solution 311

- Dihydropyrimidinones
 Synthesis of New dihydropyrimidinones catalysed by dicationic ionic liquid 645
- Dimer
 Identification and characterization of intermediates in the formation of the cyclobutadiene linked dimeric cobalt sandwich compound $[(\eta^5\text{-RCp})\text{Co}(\eta^4\text{-C}_4\text{Ph}_3)]_2$ [R = H, CH₃C(O)O] 853
- Dimethylacetone-1,3-dicarboxylate
 Facile solvent-free one-pot synthesis of pyranobenzopyrans and their derivatives 667
- Dioxomolybdenum(VI)
 Synthesis, structure and applications of [*cis*-dioxomolybdenum(VI)-(ONO)] type complexes 187
- Dipicolinic acid
 Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131
- Dirhodium(I) hydroxyl derivative
 Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^tBuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861
- Dispersion corrected DFT
 π -Stacking interactions between G-quartets and circulenes: A computational study 891
- Disulfides
 Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- Divergent bisdipyrromethane
 Interesting reactivity of diketones with pyrrole under acidic condition 593
- DMAP
 Synthesis of steroidal dimers: Selective amine catalysed steroidal dimerization 491
- DMF
 A versatile and an efficient synthesis of 5-substituted-1*H*-tetrazoles 75
- DMFC
 A self-supported 40W direct methanol fuel cell system 343
- DMS
 Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolynitrile catalysed by PPh₃ 609
- DNA intercalation complexes
 π -Stacking interactions between G-quartets and circulenes: A computational study 891
- DNA quadruplexes
 π -Stacking interactions between G-quartets and circulenes: A computational study 891
- Drug score
 An expeditious green synthesis of Schiff bases and azetidinones derivatised with 1,2,4-triazoles 657
- Dye sensitized solar cell
 High spectral response heteroleptic ruthenium (II) complexes as sensitizers for dye sensitized solar cells 37
- Dye sensitized solar cells
 Ruthenium(II)- bipyridyl with extended π -system: Improved thermo-stable sensitizer for efficient and long-term durable dye sensitized solar cells 555
- Dye-sensitized solar cells
 Synthesis and photoelectrochemical characterization of a high molar extinction coefficient heteroleptic ruthenium (II) complex 371
- Electrochemical oxidation
 Diversity in electrochemical oxidation of dihydroxybenzenes in the presence of 1-methylindole 709
- Electrolyte solution
 Excited state charge transfer reaction in (mixed solvent + electrolyte) systems: Role of reactant–solvent and reactant–ion interactions 265
- Enantioselective
 S_N2-type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- Energy transfer
 Re(I) bridged porphyrin dyads, triads and tetrads 201
- ESPT
 Estimation of interfacial acidity of sodium dodecyl sulfate micelles 909
- Ethanol
 Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolynitrile catalysed by PPh₃ 609
- Ethereal linkage
 Synthesis of New dihydropyrimidinones catalysed by dicationic ionic liquid 645
- Extended π -conjugation
 High spectral response heteroleptic ruthenium (II) complexes as sensitizers for dye sensitized solar cells 37
 Synthesis and photoelectrochemical characterization of a high molar extinction coefficient heteroleptic ruthenium (II) complex 371
- Extended π -system
 Ruthenium(II)- bipyridyl with extended π -system: Improved thermo-stable sensitizer for efficient and long-term durable dye sensitized solar cells 555
- Extended structure
 Polyoxometalates: Toward new materials 229
- Fe(II)-MOF
 A two-fold interpenetrated flexible bi-pillared-layer framework of Fe(II) with interesting solvent adsorption property 883
- Fluorescence
 Laser flash photolysis study on 9-phenylxanthenium tetrafluoroborate: Identification of new features due to the triplet state 15
 Silica nanodisks as platforms for fluorescence lifetime-based sensing of pH 901
- Fluorescence properties
 Re(I) bridged porphyrin dyads, triads and tetrads 201

- Fluorine interactions
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5- dibenzylidene-piperidin-4-one and database analysis 403
- FTIR
CO adsorption on ionic Pt, Pd and Cu sites in $Ce_{1-x}M_xO_{2-\delta}$ (M = Pt²⁺, Pd²⁺, Cu²⁺) 509
- Functional models
Mononuclear non-heme iron(III) complexes of linear and tripodal tridentate ligands as functional models for catechol dioxygenases: Effect of *N*-alkyl substitution on regioselectivity and reaction rate 145
Structural models of vanadate-dependent haloperoxidases, their reactivity, immobilization on polymer support and catalytic activities 215
- gem*-chloronitro compounds
Oxidation of *gem*-chloronitroso- and *vic*-chloronitroso-alkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- gem*-chloronitroso compounds
Oxidation of *gem*-chloronitroso- and *vic*-chloronitroso-alkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Global reactivity
Relationship between global indices of reactivity, electrodonating and electroaccepting powers, and the hammett constant in isatoic anhydride derivatives 719
- Gold
Gold(I)-selenolate complexes: Synthesis, characterization and ligand exchange reactions 783
- Gold microrods
Self-assembled microtubes and rhodamine 6G functionalized Raman-active gold microrods from 1-hydroxybenzotriazole 247
- Green chemistry
Zeolite H-BEA catalysed multicomponent reaction: One-pot synthesis of amidoalkyl naphthols – Biologically active drug-like molecules 427
ZnO nanoparticle as catalyst for efficient green one-pot synthesis of coumarins through Knoevenagel condensation 615
- Guanidinium nitrate
Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- H-bonding
Self-assembly of azobenzene based side-chain liquid crystalline polymer and *n*-alkyloxybenzoic acids 255
- H₂ selectivity
Ru⁴⁺ ion in CeO₂ (Ce_{0.95}Ru_{0.05}O_{2- δ}): A non-deactivating, non-platinum catalyst for water gas shift reaction 577
- Haloamines
S_N2-type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- Halohydrin dehalogenase
Biocatalysis of azidolysis of epoxides: Computational evidences on the role of halohydrin dehalogenase (HheC) 279
- Haloperoxidases
Structural models of vanadate-dependent haloperoxidases, their reactivity, immobilization on polymer support and catalytic activities 215
- Hammett constant
Relationship between global indices of reactivity, electrodonating and electroaccepting powers, and the hammett constant in isatoic anhydride derivatives 719
- HCFC-141b
Computational study on decomposition kinetics of CH₃CFCIO radical 733
- Heck reaction
Ce_{0.98}Pd_{0.02}O_{2- δ} : Recyclable, ligand free palladium(II) catalyst for Heck reaction 47
- Henry reaction
Phenalenyl-based ligand for transition metal chemistry: Application in Henry reaction 139
- Heterogeneous catalysis
Ce_{0.98}Pd_{0.02}O_{2- δ} : Recyclable, ligand free palladium(II) catalyst for Heck reaction 47
- Heterogeneous catalyst
Investigation of Prins reaction for the synthesis of 2, 4-disubstituted tetrahydropyran derivatives and 1, 3-dioxanes using polyaniline supported acid as reusable catalyst 623
- Heteroleptic
Synthesis and photoelectrochemical characterization of a high molar extinction coefficient heteroleptic ruthenium (II) complex 371
Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Hexafluoroacetylacetonato
Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Hexamethyldisilazane
Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Highly substituted imidazole
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- Homogeneous catalysis
Cobalt(III)-oxo cubane clusters as catalysts for oxidation of organic substrates 163

- Hydrogen bonding
Nucleobase assemblies supported by uranyl cation coordination and other non-covalent interactions 927
- Hydrogen-bonding
Comparative self-assembly studies and self-sorting of two structurally isomeric naphthalene-diimide (NDI)-gelators 963
- Hydrogen molecule
A density functional study on the adsorption of hydrogen molecule onto small copper clusters 743
- Hydrogenase model
DFT study on structure, electronic properties, and reactivity of *cis*-isomers of $[(\text{NC}_5\text{H}_4\text{-S})_2\text{Fe}(\text{CO})_2]$ 727
- Hydroquinone
Nitration of phenolic compounds and oxidation of hydroquinones using tetrabutylammonium chromate and dichromate under aprotic conditions 63
- Hypoglycemic activity
Design, synthesis and antidiabetic evaluation of oxazolone derivatives 335
- in situ* generated I_2
Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I_2 using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- In_2S_3 nanoparticles
Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- Indeno[1,2-*d*]pyrimidine-2-thiones
Synthesis of 4-aryl-4,5-dihydro-1*H*-indeno[1,2-*d*]pyrimidines by Biginelli condensation and their antibacterial activities 443
- Indole-3-aldehydes
Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolynitrile catalysed by PPh_3 609
- Insertion
Metathesis of carbon dioxide and phenyl isocyanate catalysed by group(IV) metal alkoxides: An experimental and computational study 29
- Integral cross section
Quasiclassical trajectory study on the integral cross-section and stereodynamics information of the reaction $\text{O} (^1\text{D}) + \text{H}_2 (v = 0, j = 0) \rightarrow \text{OH} + \text{H}$ 291
- Interpenetration
A two-fold interpenetrated flexible bi-pillared-layer framework of Fe(II) with interesting solvent adsorption property 883
- Intramolecular ring cyclization
An efficient asymmetric synthesis of (–)-wodeshiol 327
- Ionic conductivity
Synthesis, structure and ionic conductivity in scheelite type $\text{Li}_{0.5}\text{Ce}_{0.5-x}\text{Ln}_x\text{MoO}_4$ ($x = 0$ and 0.25 , $\text{Ln} = \text{Pr}, \text{Sm}$) 5
- Ionic Pd
 $\text{Ce}_{0.98}\text{Pd}_{0.02}\text{O}_{2.8}$: Recyclable, ligand free palladium(II) catalyst for Heck reaction 47
- Iron
Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Iron carbonyl
DFT study on structure, electronic properties, and reactivity of *cis*-isomers of $[(\text{NC}_5\text{H}_4\text{-S})_2\text{Fe}(\text{CO})_2]$ 727
- Isatoic anhydride (ISA)
Relationship between global indices of reactivity, electrodonating and electroaccepting powers, and the hammett constant in isatoic anhydride derivatives 719
- Isomer
DFT study on structure, electronic properties, and reactivity of *cis*-isomers of $[(\text{NC}_5\text{H}_4\text{-S})_2\text{Fe}(\text{CO})_2]$ 727
- KBiO_3
Photocatalytic properties of KBiO_3 and LiBiO_3 with tunnel structures 517
- Kinetics
Kinetics and mechanism of the ligand substitution reaction of di- μ -hydroxobis(bipyridyl)dipalladium(II) ion with diethyldithiocarbamate anion in aqueous solution 311
Proximity effect on the general base catalysed hydrolysis of amide linkage: The role of cationic surfactant, CTABr 497
- Knoevenagel condensation
Diethylamine functionalized polyethylene glycol as a novel and efficient catalyst for Knoevenagel condensation 331
ZnO nanoparticle as catalyst for efficient green one-pot synthesis of coumarins through Knoevenagel condensation 615
- Laser flash photolysis
Laser flash photolysis study on 9-phenylxanthenium tetrafluoroborate: Identification of new features due to the triplet state 15
Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Lewis acid
 $\text{S}_{\text{N}}2$ -type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- Lewis acids
Stereoselective synthesis of 2,3-disubstituted dihydrobenzofuran using alkyne Prins type cyclization to vinyl-ogous carbonates 943
- Lewis acidity
Mononuclear non-heme iron(III) complexes of linear and tripodal tridentate ligands as functional models for catechol dioxygenases: Effect of *N*-alkyl substitution on regioselectivity and reaction rate 145

- LiBiO₃
 Photocatalytic properties of KBiO₃ and LiBiO₃ with tunnel structures 517
- Lifetime
 Silica nanodisks as platforms for fluorescence lifetime-based sensing of pH 901
- Ligand exchange
 Gold(I)-selenolate complexes: Synthesis, characterization and ligand exchange reactions 783
- Liquid crystals
 Self-assembly of azobenzene based side-chain liquid crystalline polymer and *n*-alkyloxybenzoic acids 255
- Liquid crystal polymers
 Pendant triazole ring assisted mesogen containing side chain liquid crystalline polymethacrylates: Synthesis and characterization 81
- Low/high polar mixture
 Excited state charge transfer reaction in (mixed solvent + electrolyte) systems: Role of reactant–solvent and reactant–ion interactions 265
- M–C bond cleavage
 Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- Magnetism
 Two new 1D chains of Ni₂Na₂ heterometallic double half-cubane building units: Synthesis, structures and variable temperature magnetic study 807
- Mechanism
 Kinetics and mechanism of the ligand substitution reaction of di- μ -hydroxobis(bipyridyl)dipalladium(II) ion with diethyldithiocarbamate anion in aqueous solution 311
 Identification and characterization of intermediates in the formation of the cyclobutadiene linked dimeric cobalt sandwich compound $[(\eta^5\text{-RCp})\text{Co}(\eta^4\text{-C}_4\text{Ph}_3)]_2$ [R = H, CH₃C(O)O] 853
- Meerwein–Ponndorf–Verley reduction
 A new method for the chemoselective reduction of aldehydes and ketones using boron tri-isopropoxide, B(O^{*i*}Pr)₃: Comparison with boron tri-ethoxide, B(OEt)₃ 681
- Meso and micro porous silicates
 Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Meso*-substituted dipyrins
 Synthesis and characterization of some heteroleptic copper(II) complexes based on *meso*-substituted dipyrins 819
- Mesogen
 Pendant triazole ring assisted mesogen containing side chain liquid crystalline polymethacrylates: Synthesis and characterization 81
- Metal carboxylates
 Synthesis of first row transition metal carboxylate complexes by ring opening reactions of cyclic anhydrides 123
- Metal ion sensing
 Metal selective co-ordinative self-assembly of π -donors 773
- Metal–metal bond
 A Rh^{III}–N-heterocyclic carbene complex from metal–metal singly bonded [Rh^{II}–Rh^{II}] precursor 799
- Metallaborane
 Synthesis and reactivity of dimolybdathiaborane cluster $[(\text{Cp}^*\text{Mo})_2\text{B}_4\text{SH}_6]$ (Cp* = $\eta^5\text{-C}_5\text{Me}_5$) 847
- Metallophilic
 Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- Methanol balance
 A self-supported 40W direct methanol fuel cell system 343
- Metathesis
 Metathesis of carbon dioxide and phenyl isocyanate catalysed by group(IV) metal alkoxides: An experimental and computational study 29
- MIC
 An expeditious green synthesis of Schiff bases and azetidinones derivatised with 1,2,4-triazoles 657
- Michael addition reaction
 Diversity in electrochemical oxidation of dihydroxybenzenes in the presence of 1-methylindole 709
- Mg(ClO₄)₂
 An expeditious green synthesis of Schiff bases and azetidinones derivatised with 1,2,4-triazoles 657
- Micellar effect
 Proximity effect on the general base catalysed hydrolysis of amide linkage: The role of cationic surfactant, CTABr 497
- Microtubes
 Self-assembled microtubes and rhodamine 6G functionalized Raman-active gold microrods from 1-hydroxybenzotriazole 247
- Microwave irradiation
 Synthesis of 4-aryl-4,5-dihydro-1*H*-indeno[1,2-*d*]pyrimidines by Biginelli condensation and their antibacterial activities 443
 Microwave-assisted efficient synthesis of 2-arylbenzo[*b*]furans and 2-ferrocenylbenzo[*b*]furans from readily prepared propargylic alcohols and *o*-iodophenols 697
- Microwave-irradiation
 A facile microwave-assisted synthesis of 8,9-cycloalkathieno[3,2-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5(6*H*)-ones 69
- Modified polyethylene glycol
 Diethylamine functionalized polyethylene glycol as a novel and efficient catalyst for Knoevenagel condensation 331
- Molecular spin
 Axial phenoxide coordination on di-iron(III) bisporphyrin: Insights from experimental and DFT studies 827
- Mononuclear iron(III) complexes
 Mononuclear non-heme iron(III) complexes of linear and tripodal tridentate ligands as functional models for catechol dioxygenases: Effect of *N*-alkyl substitution on regioselectivity and reaction rate 145
- Morphology
 Textural and morphological studies on zinc–iron alloy electrodeposits 357

- Multicomponent reaction
Zeolite H-BEA catalysed multicomponent reaction: One-pot synthesis of amidoalkyl naphthols – Biologically active drug-like molecules 427
Synthesis of 4-aryl-4,5-dihydro-1*H*-indeno[1,2-*d*]pyrimidines by Biginelli condensation and their antibacterial activities 443
- MW irradiation
Amberlyst A-15: Reusable catalyst for the synthesis of 2,4,5-trisubstituted and 1,2,4,5-tetrasubstituted-1*H*-imidazoles under MW irradiation 421
- N*-heterocyclic adduct
Solvothermal synthesis and theoretical study of a polypyridium trimesylate adduct 687
- N*-heterocyclic carbene
A Rh^{III}–*N*-heterocyclic carbene complex from metal–metal singly bonded [Rh^{II}–Rh^{II}] precursor 799
- Nano porous materials
Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Nanocrystalline TiO₂
High spectral response heteroleptic ruthenium (II) complexes as sensitizers for dye sensitized solar cells 37
- Nanoparticle
Silica nanodisks as platforms for fluorescence lifetime-based sensing of pH 901
- Nanostructures
Metal selective co-ordinative self-assembly of π -donors 773
- Naphthalene excimer
Utilizing dendritic scaffold for feasible formation of naphthalene excimer 919
- Naphthyridine
A Rh^{III}–*N*-heterocyclic carbene complex from metal–metal singly bonded [Rh^{II}–Rh^{II}] precursor 799
- Nematic phase
Self-assembly of azobenzene based side-chain liquid crystalline polymer and *n*-alkyloxybenzoic acids 255
- New materials
Polyoxometalates: Toward new materials 229
- Ni₂^{II}, 1D chain
Two new 1D chains of Ni₂Na₂ heterometallic double half-cubane building units: Synthesis, structures and variable temperature magnetic study 807
- Nickel
Recyclable nickel catalysed Suzuki–Miyaura reaction in the presence of polyethyleneimine under phosphine-free conditions in ethylene glycol 485
- Nitration
Nitration of phenolic compounds and oxidation of hydroquinones using tetrabutylammonium chromate and dichromate under aprotic conditions 63
- Nitro urea
Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- Nitroketenedithioacetals
Nitroketene dithioacetal chemistry: Synthesis of coumarins incorporating nitrothiophene moiety 411
- Nitroso-to-nitro conversion
Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Nitrosyl chloride
Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Noble metal ion
CO adsorption on ionic Pt, Pd and Cu sites in Ce_{1-x}M_xO_{2- δ} (M = Pt²⁺, Pd²⁺, Cu²⁺) 509
- Nucleophilic ring opening
S_N2-type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- o*-hydroxy benzaldehyde
ZnO nanoparticle as catalyst for efficient green one-pot synthesis of coumarins through Knoevenagel condensation 615
- o*-iodophenol
Microwave-assisted efficient synthesis of 2-arylbenzo[*b*]furans and 2-ferrocenylbenzo[*b*]furans from readily prepared propargylic alcohols and *o*-iodophenols 697
- Oceanapia*
Quinolizidines alkaloids: Petrosin and xestospongins from the sponge *Oceanapia* sp. 601
- ONO ligands
Synthesis, structure and applications of [*cis*-dioxomolybdenum(VI)-(ONO)] type complexes 187
- Organo-gallium
Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- Organochalcogen
Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- Organogels
Comparative self-assembly studies and self-sorting of two structurally isomeric naphthalene-diimide (NDI)-gelators 963
- Organogallium
Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- Organometallic
Synthesis and reactivity of dimolybdathiaborane cluster [(Cp*Mo)₂B₄SH₆] (Cp* = η^5 -C₅Me₅) 847

- Oxazolone scaffold
 Design, synthesis and antidiabetic evaluation of oxazolone derivatives 335
- Oxidation
 Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
 Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
 Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Oxidative addition
 A Rh^{III}-N-heterocyclic carbene complex from metal-metal singly bonded [Rh^{II}-Rh^{II}] precursor 799
- Oximate ligand
 Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Oxime
 Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Oxo transfer reactions
 Synthesis, structure and applications of [*cis*-dioxomolybdenum(VI)-(ONO)] type complexes 187
- Oxone[®]/KI
 Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Palladium
 Di(1*H*-benzo[*d*][1,2,3]triazol-1-yl)methane: An efficient ligand for copper and amine-free palladium-catalysed Sonogashira coupling reaction 937
- Palladium nanoparticles
 Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875
- Palladium(II)
 Kinetics and mechanism of the ligand substitution reaction of di- μ -hydroxobis(bipyridyl)dipalladium(II) ion with diethyldithiocarbamate anion in aqueous solution 311
- PAMAM dendrimer
 Utilizing dendritic scaffold for feasible formation of naphthalene excimer 919
- Pd-ceria
 Ce_{0.98}Pd_{0.02}O_{2.8}: Recyclable, ligand free palladium(II) catalyst for Heck reaction 47
- Pechmann condensation
 Nitroketene dithioacetal chemistry: Synthesis of coumarins incorporating nitrothiophene moiety 411
- PEG-600
 Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolyl nitrile catalysed by PPh₃ 609
- Pentolactone
 Resolution of 2,3-dihydro-benzofuran-3-ols 459
- PES
 Computational study on decomposition kinetics of CH₃CFCIO radical 733
- Phase-transfer catalysis
 Palladium catalysed asymmetric alkylation of benzophenone Schiff base glycine esters in ionic liquids 467
- Phenalenyl
 Phenalenyl-based ligand for transition metal chemistry: Application in Henry reaction 139
- Phenol
 Nitration of phenolic compounds and oxidation of hydroquinones using tetrabutylammonium chromate and dichromate under aprotic conditions 63
- Phenolate complex
 Axial phenoxide coordination on di-iron(III) bisporphyrin: Insights from experimental and DFT studies 827
- Phenols
 Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Phenosafranin
 Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Phosphine free
 Recyclable nickel catalysed Suzuki-Miyaura reaction in the presence of polyethyleneimine under phosphine-free conditions in ethylene glycol 485
- Phosphines
 Gold(I)-selenolate complexes: Synthesis, characterization and ligand exchange reactions 783
- Photocatalysis
 Photocatalytic properties of KBiO₃ and LiBiO₃ with tunnel structures 517
- Photochemistry
 Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Photoluminescence
 Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- Picolinic acid
 Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131

- Pinene epoxidation
Cobalt(III)-oxo cubane clusters as catalysts for oxidation of organic substrates 163
- Piperazine
Synthesis, properties and supramolecular structure of piperazinedium thiosulfate monohydrate 55
- Piperazinedium
Synthesis, properties and supramolecular structure of piperazinedium thiosulfate monohydrate 55
- Polarization dependent differential cross-section (PDDCS)
Quasiclassical trajectory study on the integral cross-section and stereodynamics information of the reaction $O(^1D) + H_2(v=0, j=0) \rightarrow OH + H$ 291
- Polarization-dependent differential cross sections
A quasiclassical trajectory analysis of stereodynamics of the $H + FCl(v=0-3, j=0-3) \rightarrow HCl + F$ reaction 21
- Polyelectrolytes
Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Polymer support
Investigation of Prins reaction for the synthesis of 2, 4-disubstituted tetrahydropyran derivatives and 1, 3-dioxanes using polyaniline supported acid as reusable catalyst 623
- Polyethylene glycol (PEG)
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- Polyethyleneimine
Recyclable nickel catalysed Suzuki–Miyaura reaction in the presence of polyethyleneimine under phosphine-free conditions in ethylene glycol 485
- Polymethacrylates
Pendant triazole ring assisted mesogen containing side chain liquid crystalline polymethacrylates: Synthesis and characterization 81
- Polypyridyl Ru(II)-sensitizers
Ruthenium(II)-bipyridyl with extended π -system: Improved thermo-stable sensitizer for efficient and long-term durable dye sensitized solar cells 555
- Polyoxometalates
Polyoxometalates: Toward new materials 229
- Polyoxovanadate
Polyoxometalates: Toward new materials 229
- Porous framework
A two-fold interpenetrated flexible bi-pillared-layer framework of Fe(II) with interesting solvent adsorption property 883
- Potential energy surface
DFT study of the reactions of Mo and Mo^+ with CO_2 in gas phase 299
- Powder XRD
Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875
- PPh_3
Simple and efficient Knoevenagel synthesis of (*E*)-2-((1*H*-indol-3-yl) methylene)-3-oxoindolyl nitrile catalysed by PPh_3 609
- Prins cyclization
Investigation of Prins reaction for the synthesis of 2, 4-disubstituted tetrahydropyran derivatives and 1, 3-dioxanes using polyaniline supported acid as reusable catalyst 623
Stereoselective synthesis of 2,3-disubstituted dihydrobenzofuran using alkyne Prins type cyclization to vinyl-ogous carbonates 943
- Propargylic alcohols
Microwave-assisted efficient synthesis of 2-arylbenzo[b]furans and 2-ferrocenylbenzo[b]furans from readily prepared propargylic alcohols and *o*-iodophenols 697
- Pt catalyst
 Ru^{4+} ion in CeO_2 ($Ce_{0.95}Ru_{0.05}O_{2-\delta}$): A non-deactivating, non-platinum catalyst for water gas shift reaction 577
- Pyranobenzopyrans
Facile solvent-free one-pot synthesis of pyranobenzopyrans and their derivatives 667
- Pyrene
Pyrene appended bile acid conjugates: Synthesis and a structure–gelation property study 379
- Pyrimidinones
A facile microwave-assisted synthesis of 8,9-cycloalkathieno [3,2-*e*][1,2,4]triazolo[1,5-*c*]pyrimidin-5(6*H*)-ones 69
- Quasiclassical trajectory method
A quasiclassical trajectory analysis of stereodynamics of the $H + FCl(v=0-3, j=0-3) \rightarrow HCl + F$ reaction 21
Quasiclassical trajectory study on the integral cross-section and stereodynamics information of the reaction $O(^1D) + H_2(v=0, j=0) \rightarrow OH + H$ 291
- Quaternary ammonium salts
 S_N2 -type ring opening of substituted-*N*-tosylaziridines with zinc (II) halides: Control of racemization by quaternary ammonium salt 951
- Quinoline
Synthesis of New dihydropyrimidinones catalysed by dicationic ionic liquid 645
- Quinoxalines
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- Radical
Phenalenyl-based ligand for transition metal chemistry: Application in Henry reaction 139
- Raman spectroscopy
Self-assembled microtubes and rhodamine 6G functionalized Raman-active gold microrods from 1-hydroxybenzotriazole 247
- Re(I) bridged porphyrin arrays
Re(I) bridged porphyrin dyads, triads and tetrads 201
- Reaction mechanism
DFT study of the reactions of Mo and Mo^+ with CO_2 in gas phase 299

- Reactivity
Silver complexes of 1,2,4-triazole derived N-heterocyclic carbenes: Synthesis, structure and reactivity studies 97
- Recyclability
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- Recyclable
Recyclable nickel catalysed Suzuki–Miyaura reaction in the presence of polyethyleneimine under phosphine-free conditions in ethylene glycol 485
- Redox electrolyte
Synthesis and photoelectrochemical characterization of a high molar extinction coefficient heteroleptic ruthenium (II) complex 371
- Regioselectivity
Mononuclear non-heme iron(III) complexes of linear and tripodal tridentate ligands as functional models for catechol dioxygenases: Effect of *N*-alkyl substitution on regioselectivity and reaction rate 145
- Rehydration
Synthesis, properties and supramolecular structure of piperazinediium thiosulfate monohydrate 55
- Resolution
Resolution of 2,3-dihydro-benzofuran-3-ols 459
- Rhodium
A Rh^{III}-N-heterocyclic carbene complex from metal–metal singly bonded [Rh^{II}–Rh^{II}] precursor 799
- Rhodium(I)
Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^tBuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861
- Ring opening reactions
Synthesis of first row transition metal carboxylate complexes by ring opening reactions of cyclic anhydrides 123
- Room temperature
Diethylamine functionalized polyethylene glycol as a novel and efficient catalyst for Knoevenagel condensation 331
- Ru⁴⁺ ion in CeO₂
Ru⁴⁺ ion in CeO₂ (Ce_{0.95}Ru_{0.05}O_{2- δ}): A non-deactivating, non-platinum catalyst for water gas shift reaction 577
- Ru(II) complexes
High spectral response heteroleptic ruthenium (II) complexes as sensitizers for dye sensitized solar cells 37
- Ruthenium
Ruthenium complexes of chelating amido-functionalized N-heterocyclic carbene ligands: Synthesis, structure and DFT studies 791
- Ruthenium(II) complexes
Ruthenium(II) carbonyl complexes containing chalconates and triphenylphosphine/arsine 567
- Ruthenium(III)
Synthesis, spectroscopic characterization and catalytic oxidation properties of ONO/ONS donor Schiff base ruthenium(III) complexes containing PPh₃/AsPh₃ 319
- Sartans
An efficient synthesis, X-ray and spectral characterization of biphenyl derivatives 393
- Scanning electron microscopy
Pyrene appended bile acid conjugates: Synthesis and a structure–gelation property study 379
- Scheelite
Synthesis, structure and ionic conductivity in scheelite type Li_{0.5}Ce_{0.5-x}Ln_xMoO₄ (*x* = 0 and 0.25, Ln = Pr, Sm) 5
- Schiff base
Palladium catalysed asymmetric alkylation of benzophenone Schiff base glycine esters in ionic liquids 467
An expeditious green synthesis of Schiff bases and azetidinones derivatised with 1,2,4-triazoles 657
- Schiff base ligand
Synthesis, spectroscopic characterization and catalytic oxidation properties of ONO/ONS donor Schiff base ruthenium(III) complexes containing PPh₃/AsPh₃ 319
- SDS micelles
Estimation of interfacial acidity of sodium dodecyl sulfate micelles 909
- Second-order Møller–Plesset perturbation theory (UMP2)
Theoretical study of the reactivity trends in the Cl-abstraction reactions of CHCl₃ + CHX⁻/CX₂⁻ (X = Cl, Br and I) 755
- Secondary bonding intramolecular interaction
Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- Self-assembly
Self-assembled microtubes and rhodamine 6G functionalized Raman-active gold microrods from 1-hydroxybenzotriazole 247
Self-assembly of azobenzene based side-chain liquid crystalline polymer and *n*-alkyloxybenzoic acids 255
Metal selective co-ordinative self-assembly of π -donors 773
Comparative self-assembly studies and self-sorting of two structurally isomeric naphthalene-diimide (NDI)-gelators 963
- Self-sorting
Comparative self-assembly studies and self-sorting of two structurally isomeric naphthalene-diimide (NDI)-gelators 963
- Selenium
Gold(I)-selenolate complexes: Synthesis, characterization and ligand exchange reactions 783
- Selenoenzymes
Gold(I)-selenolate complexes: Synthesis, characterization and ligand exchange reactions 783
- Sensor
Silica nanodisks as platforms for fluorescence lifetime-based sensing of pH 901
- Silica
Silica nanodisks as platforms for fluorescence lifetime-based sensing of pH 901

- Silica sulfuric acid
Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- Silver
Silver complexes of 1,2,4-triazole derived N-heterocyclic carbenes: Synthesis, structure and reactivity studies 97
- Single crystal X-ray
Optical detection of sodium salts of fluoride, acetate and phosphate by a diacylhydrazine ligand by the formation of a colour alkali metal complex 869
- Small copper cluster
A density functional study on the adsorption of hydrogen molecule onto small copper clusters 743
- Smectic-A phase
Self-assembly of azobenzene based side-chain liquid crystalline polymer and *n*-alkoxybenzoic acids 255
- Stereoselective aldol condensation
An efficient asymmetric synthesis of (–)-wodeshiol 327
- Solid-state structure
Iron and cobalt complexes of 4,4,9,9-tetramethyl-5,8-diazadodecane-2, 11-dione dioxime ligand: Synthesis, characterization and reactivity studies 839
- Sodium azide
A versatile and an efficient synthesis of 5-substituted-1*H*-tetrazoles 75
- Solid acid
Investigation of Prins reaction for the synthesis of 2, 4-disubstituted tetrahydropyran derivatives and 1, 3-dioxanes using polyaniline supported acid as reusable catalyst 623
- Solvent-free
Diethylamine functionalized polyethylene glycol as a novel and efficient catalyst for Knoevenagel condensation 331
An expeditious green synthesis of Schiff bases and azetidiones derivatised with 1,2,4-triazoles 657
Facile solvent-free one-pot synthesis of pyranobenzopyrans and their derivatives 667
- Solvent reorganization energy
Excited state charge transfer reaction in (mixed solvent + electrolyte) systems: Role of reactant–solvent and reactant–ion interactions 265
- Solvothermal synthesis
Solvothermal synthesis and theoretical study of a polypyridium trimesylate adduct 687
- Sonogashira coupling
Stereoselective synthesis of 2,3-disubstituted dihydrobenzofuran using alkyne Prins type cyclization to vinyl-ogous carbonates 943
- Spectroscopic studies
Ruthenium(II) carbonyl complexes containing chalconates and triphenylphosphine/arsine 567
- Spectroscopy
Solvothermal synthesis and theoretical study of a polypyridium trimesylate adduct 687
- Spin density calculation
Axial phenoxide coordination on di-iron(III) bisporphyrin: Insights from experimental and DFT studies 827
- Sponge
Quinolizidines alkaloids: Petrosin and xestospongins from the sponge *Oceanapia* sp. 601
- Stabilizer
Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875
- Static excimer
Utilizing dendritic scaffold for feasible formation of naphthalene excimer 919
- Stereodynamics
Quasiclassical trajectory study on the integral cross-section and stereodynamics information of the reaction $O(^1D) + H_2(v = 0, j = 0) \rightarrow OH + H$ 291
- Steroidal dimers
Synthesis of steroidal dimers: Selective amine catalysed steroidal dimerization 491
- Structural models
Structural models of vanadate-dependent haloperoxidases, their reactivity, immobilization on polymer support and catalytic activities 215
- Structural study
Synthesis of first row transition metal carboxylate complexes by ring opening reactions of cyclic anhydrides 123
- Structure elucidation
Axial phenoxide coordination on di-iron(III) bisporphyrin: Insights from experimental and DFT studies 827
- Structures
Organo-gallium and indium complexes with dithiolate and oxo ligands: Synthesis, structures and applications 107
- Supramolecular assembly
Polyoxometalates: Toward new materials 229
- Supramolecular chemistry
Urea/thiourea derivatives and Zn(II)-DPA complex as receptors for anionic recognition—A brief account 175
- Suzuki–Miyaura
Recyclable nickel catalysed Suzuki–Miyaura reaction in the presence of polyethyleneimine under phosphine-free conditions in ethylene glycol 485
- Synthesis
Photocatalytic properties of $KBiO_3$ and $LiBiO_3$ with tunnel structures 517
Synthesis of new series of N-3-[-2-(substituted phenyl-4-oxo-5-(substituted benzylidene)-1,3-thiazolidine)-carbonyl]-propyl-2-aminothiazole and their biological importance 631
- Telluroxane
Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- TEM micrographs
Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875

- Terminal alkynes
 Di(1*H*-benzo[*d*][1,2,3]triazol-1-yl)methane: An efficient ligand for copper and amine-free palladium-catalysed Sonogashira coupling reaction 937
- Terpyridine
 Synthesis and photoelectrochemical characterization of a high molar extinction coefficient heteroleptic ruthenium (II) complex 371
- Tetrahydroindole-bridged bipyrrole
 Interesting reactivity of diketones with pyrrole under acidic condition 593
- Tetranuclear complexes
 Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^{*t*}BuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861
- Tetrazole
 An efficient synthesis, X-ray and spectral characterization of biphenyl derivatives 393
- Tetrazoles
 A versatile and an efficient synthesis of 5-substituted-1*H*-tetrazoles 75
- Texture
 Textural and morphological studies on zinc–iron alloy electrodeposits 357
- Thermo-stable
 Ruthenium(II)-bipyridyl with extended π -system: Improved thermo-stable sensitizer for efficient and long-term durable dye sensitized solar cells 555
- Thiazolidinone
 Synthesis of new series of N-3-[-{2-(substituted phenyl)-4-oxo-5-(substituted benzylidene)-1,3-thiazolidine}-carbonyl]-propyl-2-aminothiazole and their biological importance 631
- Thiols
 Metal-free oxidative coupling of thiols to disulfides using guanidinium nitrate or nitro urea in the presence of silica sulfuric acid 453
- Thionine
 Photoprocesses of coordination compounds and dyes in solution and nanoporous materials: Evolution from milliseconds to femtoseconds 531
- Thiosulfate chain
 Synthesis, properties and supramolecular structure of piperazinedium thiosulfate monohydrate 55
- Titanium *n*-butoxide
 Metathesis of carbon dioxide and phenyl isocyanate catalysed by group(IV) metal alkoxides: An experimental and computational study 29
- Transition metal
 DFT study on structure, electronic properties, and reactivity of *cis*-isomers of [(NC₃H₄-S)₂Fe(CO)₂] 727
- Transition-metal
 DFT study of the reactions of Mo and Mo⁺ with CO₂ in gas phase 299
- Transmetallation
 Aspects of secondary bonding intramolecular interaction in organomercury and organochalcogen derivatives 113
- Triazole
 Pendant triazole ring assisted mesogen containing side chain liquid crystalline polymethacrylates: Synthesis and characterization 81
- Trimethylsilylation
 Rapid and highly efficient trimethylsilylation of alcohols and phenols with hexamethyldisilazane (HMDS) catalysed by *in situ* generated I₂ using Oxone[®]/KI or cerium ammonium nitrate (CAN)/KI systems under mild conditions 703
- Triphenylarsine
 Synthesis, spectroscopic characterization and catalytic oxidation properties of ONO/ONS donor Schiff base ruthenium(III) complexes containing PPh₃/AsPh₃ 319
- Triphenylphosphine
 Synthesis, spectroscopic characterization and catalytic oxidation properties of ONO/ONS donor Schiff base ruthenium(III) complexes containing PPh₃/AsPh₃ 319
- Triplet–triplet absorption
 Laser flash photolysis study on 9-phenylxanthenium tetrafluoroborate: Identification of new features due to the triplet state 15
- Two component gel
 Pyrene appended bile acid conjugates: Synthesis and a structure–gelation property study 379
- Ultrasound
 An efficient ultrasound promoted catalyst-free protocol for the synthesis of chromeno[4,3-*b*]quinolin-6-ones 673
- Unsaturated steroidal ketones
 Synthesis of steroidal dimers: Selective amine catalysed steroidal dimerization 491
- Unsymmetrical
 Identification and characterization of intermediates in the formation of the cyclobutadiene linked dimeric cobalt sandwich compound [(η^5 -RCp)Co(η^4 -C₄Ph₃)₂] [R = H, CH₃C(O)O] 853
- Unusual ring annulations
 Interesting reactivity of diketones with pyrrole under acidic condition 593
- Uracil tetrad
 Nucleobase assemblies supported by uranyl cation coordination and other non-covalent interactions 927
- Uranyl complex
 Nucleobase assemblies supported by uranyl cation coordination and other non-covalent interactions 927
- Urea/thiourea-based receptors
 Urea/thiourea derivatives and Zn(II)-DPA complex as receptors for anionic recognition—A brief account 175
- Uric acid
 Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic and uric acids using polymer film modified electrode 349
- UV-vis
 Synthesis of azamacrocyclic stabilized palladium nanoparticles: Controlled size and one-dimensional growth 875

- Vanadium complexes
Structural models of vanadate-dependent haloperoxidases, their reactivity, immobilization on polymer support and catalytic activities 215
- Vapour adsorption
A two-fold interpenetrated flexible bi-pillared-layer framework of Fe(II) with interesting solvent adsorption property 883
- Vector correlation
Quasiclassical trajectory study on the integral cross-section and stereodynamics information of the reaction $O(^1D) + H_2(v = 0, j = 0) \rightarrow OH + H$ 291
- vic*-chloronitro compounds
Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- vic*-chloronitroso compounds
Oxidation of *gem*-chloronitroso- and *vic*-chloronitrosoalkanes and -cycloalkanes to respective chloronitro compounds by novel cetyltrimethylammonium hypochlorite reagent 433
- Vinylogous carbonates
Stereoselective synthesis of 2,3-disubstituted dihydrobenzofuran using alkyne Prins type cyclization to vinylogous carbonates 943
- Water
Polyethylene glycol in water: A simple, efficient and green protocol for the synthesis of quinoxalines 477
- Weak intermolecular interactions
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5-dibenzylidene-piperidin-4-one and database analysis 403
- WGS reaction
Ru⁴⁺ ion in CeO₂ (Ce_{0.95}Ru_{0.05}O_{2- δ}): A non-deactivating, non-platinum catalyst for water gas shift reaction 577
- X-ray crystal structure
Studies on bismuth carboxylates—synthesis and characterization of a new structural form of bismuth(III) dipicolinate 131
- X-ray crystallography
Phenalenyl-based ligand for transition metal chemistry: Application in Henry reaction 139
- X-ray diffraction
The role of weak intermolecular C–H . . . F interactions in supramolecular assembly: Structural investigations on 3,5-dibenzylidene-piperidin-4-one and database analysis 403
- Xylene
Synthesis of steroidal dimers: Selective amine catalysed steroidal dimerization 491
- Zeolite
Zeolite H-BEA catalysed multicomponent reaction: One-pot synthesis of amidoalkyl naphthols – Biologically active drug-like molecules 427
- Zinc oxide (ZnO)
ZnO nanoparticle as catalyst for efficient green one-pot synthesis of coumarins through Knoevenagel condensation 615
- Zinc–iron alloy
Textural and morphological studies on zinc–iron alloy electrodeposits 357
- Zirconium *n*-butoxide
Metathesis of carbon dioxide and phenyl isocyanate catalysed by group(IV) metal alkoxides: An experimental and computational study 29
- ZrOCl₂·8 H₂O;
A versatile and an efficient synthesis of 5-substituted-1*H*-tetrazoles 75
- Zwitterionic complex
Mono-, di- and tetranuclear rhodium(I) complexes of morpholine and *N*-methylpiperazine functionalized cyclodiphosph(III)azanes, *cis*-[(^tBuN- μ)₂(PNC₄H₈X)₂] (X = O, NMe) 861