



Volume 75 (2010)

# Journal of the Serbian Chemical Society

JSCS-info@shd.org.rs • www.shd.org.rs/JSCS

## Subject index

Absorption spectra, of solvatochromic compounds, 1019  
Accumulation lake, pollutants in, 1005  
Acenaphthylene-type hydrocarbons, 83  
Acetaminophen, 1421  
Acetic anhydride, in acetylation of dextran, 165  
Acetylcholinesterase, 1491  
Acetoacetate esters, 299  
Acetylation, of dextran, 165  
Acid azo dye, on wool and silk fabrics, 605  
Activated carbon, granular, in removal of organochlorine pesticides, 565  
Activated titanium anodes, 1413  
Active coal, in elimination of organochloric insecticides, 575  
1-Acylthiosemicarbazide, in intramolecular cyclization, 1463  
Addition reaction, 649  
Aerogel, in biodiesel synthesis, 789  
Affinity chromatography, 1481  
 $\text{Ag}_2 D-X$  band system, 659  
 $\text{Ag(I)}$  complexes, 1  
Alkane with  $k$  methyl groups, 1405  
 $n$ -Alkanes,  
    heat of vaporization of, 997  
    in the needle waxes of pines, 1337  
Allergen extract, 19  
Alignment-independent 3D QSAR, 1167  
Alumina/silica, as catalyst support, 789  
Aluminum chloride, as catalyst, 423  
 $\omega$ -Amino acid derivatives,  
    as transdermal permeation enhancers, 595  
    in Ni complexes, 1219  
2-Amino-4-ethyl-5-hydroxybenzaldehyde, in synthesis of ligands, 629

3-Aminopyridine, in synthesis of oligomers/polymers, 1203  
Ammonium dihydrogen phosphate, as fertilizer, 951  
Ammonium thiocyanate, synthesis of by UV, 1381  
Anionic clays, 1251  
Antibacterial activity,  
    of Co(II), Ni(II), Cu(II) and Zn(II) complexes, 1075  
    of essential oil of bay, 395  
    of essential oil of *Levisticum officinale* Koch, 1661  
    of metal complexes with oxime, 1231  
    of oligomers/polymers, 1203  
    of organosilicon(IV) complexes, 917  
Antifungal activity,  
    of macrocyclic complexes, 475, 763, 935, 1369  
    of metal complexes with oxime, 1231  
    of organosilicon(IV) complexes, 917  
Antimicrobial activity,  
    of Biginelli products of thiobarbituric acids, 1033  
    of Cu(II) and Zn(II) complexes, 773  
    of complexes with 14-membered tetraazamacrocyclic ligand, 217, 1369  
    of essential oils from six Himalayan *Nepeta* species, 739  
    of extracts of *Stachys* species, 1347  
    of macrocyclic complexes, 763  
    of *Ribes nigrum* L., 35  
    of *Thymus glabrescens* and *Thymus pulegioides*, 27  
    of transition metal complexes, 349  
    of trivalent metal Schiff base complexes, 629  
Antioxidant capacity,

- of extracts of *Stachys* species, 1347  
of sage, 1491
- Antiproliferative agents, 1167
- Antitumour activity, of thorium(IV) complexes, 749
- Apigenin, in plant extracts, 903
- Aqueous solubility prediction, 483
- Aromatic aldehydes, 1033
- Artemisinin, 1533
- Artificial neural network, prediction by, 1391
- 2-Aryl-1-(arylmethyl)-1*H*-benzimidazoles, synthesis of, 1181
- Arylazo pyridone dyes, 1019
- Asymmetrical tetradeятate Schiff base, as ligand, 349
- Aspergillus awamori*, waste mycelium of, 551
- Atmosphere analysis, 813
- Atomic absorption spectrometry, 1701
- Atomic force microscopy, 965
- Autoprotolysis constant, determination of, 1575
- Azacyclopropane, 649
- Azo-enol form, 639
- Azomethine ylides, cyclo-addition reaction of, 1
- Band strength distribution, 659
- Bauxite ore, analysis of, 1099
- Bay, essential oil of, 395
- Benzo-annelated triphenylene, 943
- Benzothiazolylazo- $\beta$ -dicarbonyls, as ligands, 639
- Berry extraction, 45
- Biacetyl-derived complexes, 1075
- Bile acids, in the *in vitro* adsorption, 433
- Binary mixtures, thermodynamic properties of, 283
- Bioactivity, against the HIV gene, 1325
- Biodiesel synthesis, 789
- Biomonitoring, 1453
- Bioremediation, 1605
- Biosensor, of rutin, 1421
- 2,2'-Bipyridine, 1085
- Bis-indolylmethanes, 423
- Black currant leaves of cultivar Čačanska crna, essential oil of, 35
- Brassica napus* L., in phytoextraction of heavy metals, 1279
- Bread quality, 195
- N-Bromosuccinimide, as catalyst, 299
- 2,3-Butanedione, in synthesis of the ligands of macrocyclic complexes, 475
- Calarene, 209
- Calcinations, of porous SiO<sub>2</sub> ceramics, 385
- Calcium alginate gel spheres, for urease ntrapment, 175
- Cannabinoids, 893
- Cannabisin G, synthesis of, 1617
- Carbene, 649
- Carbon nanotubes, electrochemical properties of, 1435
- Carbonaceous materials, 271
- Carbon paste electrode, 681
- Carboxylic ligand, 929
- Celtis australis*, methanolic extract from the leaves of, 733
- Chemiluminescence, as a method for evaluation of the oxidative activity, 333
- Chemoselective oxidation, of sulfides, 307
- Chemotaxonomy, 1637
- Chlorogenic acids, 875
- Cleavage activity, of DNA, 61
- CO oxidation, kinetics of, 249
- Coacervation, 615, 823
- Coenzyme binding, 185
- Complete active space calculation, on fluoranthenes, 1241
- Complexes of factor-binding protein 1, 1481
- Composite solid propellants, 369
- Compressibility, of ternary mixtures, 1721
- Computer programs for calculating pK<sub>a</sub>, 243
- Constructed wetlands, for saline wastewater treatment, 129
- Container closure system, 1441
- Copper smelting, 1733
- Coulometry, 1575

- Coumarin-based compounds, 243  
 Cr(VI) Removal, 551  
 Crop age, in variation of major essential oil constituents, 441  
 Crystal growth of  $K_2TiGe_3O_9$ , 1595  
 Crystal structure,  
   of acid–base complexes, 459  
   of Ni complexes, 1219  
   of Zn complexes, 1209  
 CSpKaPredictor and ADME/ToxWEB programs, 243  
 Cyanex-923 extractant, 1549  
 Cyanobacterial toxins, in freshwater reservoirs, 1303  
 Cyanogen chloride, 813  
 2-(2-Cyanopropyl)-dithiobenzoate, synthesis of, 1711  
 Cyclic conjugation,  
   in benzo-annelated triphenylenes, 943  
   ring effects on, 83  
   energy effect of, 83, 943  
   PCP-rule for, 83  
 Cycle index, of IPR hetero-fullerenes, 361  
 Cycle life, of batteries and capacitors, 1259  
 Cyclic voltammograms test, 271  
 Cyclo-addition reaction, of azomethine ylides, 1  
 1,4-Cyclohexanedione oxime, in dispiroheterocycles synthesis, 1473  
 Cyclohexylamine, 283  
 CYP1A enzyme, 1149
- Danube River, eco-chemical status of, 1125  
 Decolorization, of textile, 855  
 Degree of polymerisation, 689  
 Density functional theory, 259, 1391  
*Dermatophagoides pteronyssinus*, in sublingual immunotherapy, 19  
 Determination of Cd, Pb and As, in river sediments, 113  
 Dextran, acetylation of, 165  
 DFT Calculation, on Ni complexes, 1219  
 1,2-Diamine, in synthesis of ionic liquids, 1315  
 Diaminonaphthalene, 217  
 Dichloropropanol, as product of glycerol chlorination, 101  
 Differential pulse voltammetry, 681  
 Digital holography, in detection of localized corrosion, 505  
 Digoxin, determination of, 1583  
 Dihydropyrimidine, synthesis of, 1033  
 $\beta$ -Diketonato complexes, 513  
 1,2-Diketone, condensation with 1,2-diamines, 1315  
 Dioxomolybdenum(VI) complexes, 1063  
 Dioxovanadium(V) complexes, 1063  
 Dipyridopyrimidine, as synthon for heterotricycles, 11  
 Diradical, singlet and triplet, 1241  
 Dispiroheterocycles, synthesis of, 1473  
 Dithiocarbamates, synthesis of, 1085  
 DNA Binding and cleavage, 773  
 Dopamine,  
   determination of, 1685  
   sensor for, 537  
 Double hydroxides of Mg–Fe, layered, 1251  
 DPPH Radical scavenging activity, 1503  
 Dye-sensitized solar cells, 259  
 Dynamic light scattering, 965
- Eco-chemical status, of shallow lake, 717  
 Ecotoxicity, of anilines, 1291  
 Electrocatalyst for oxygen reduction, 1435  
 Electron paramagnetic resonance spectroscopy, 965  
 Electrochemical impedance spectroscopy, 1413  
 Electrothermal atomic absorption spectrometry, for determination of heavy metals, 113  
 ELISA Inhibition, 19  
 Emulsions, 615  
 Ethanol oxidation, 1559  
 Eutrophication, 717  
 Excess molar volumes, in ternary mixtures, 1721  
 Fertilizer, synthesis of, 951



- Fibrex, 195  
 Flavonoids, 733  
 Flavanol monomers, 1641  
 Fluidized bed incinerator, 523  
 Fluoranthenes,  
   Kekulé structures of, 1093  
   diradical character of, 1241  
 Foodstuffs, 803  
 Forensic samples, of cannabis, 893  
 Formation constants, of complexes, 75  
 Franck–Condon factors, 659  
 Free base porphyrins, oxidative activity of, 333  
 Free thiols, during maize seeds aging, 323  
 Freeze-dried powder, for injections, 1441  
 Frozen dough, effect of commercial fibres on, 195  
 Fuel cell, with polymer electrolyte, 377  
 Full non-rigid group, of 2,4-dimethylbenzene, 91  
 Fullerene, higher, 965  
 Fullerene-based colloids, 965  
 Furan-2-carboxaldehyde4-phenyl-3-thiosemicarbazone, as ligand, 749
- Gallium(III), extraction and recovery of, 1099  
 Gas chromatography–mass spectrometry, 101, 343, 441, 565, 575, 803, 1337, 1347, 1361, 1503  
 GCD Analysis, 893  
 Gene expression patterns, in blood, 1053  
 Germacrene D, 1653  
 Gibbs free energy, of coenzyme binding, 185  
 Glass, 1595  
 Glassy carbon electrode, modified, 1685  
 Glutarimides, activity of, 1167  
 Glutathione, half-cell reduction potential of, 323  
 Glycerol, chlorination of, 101  
 C-Glycosides, 733  
 Grape seeds, polyphenolic compounds in, 1641  
 Graphite oxide, 497
- Graphite (0001) surface, 1671  
 Granular carbon, in removal of *s*-triazine herbicides from waters, 405  
 GRIND descriptors, 1167  
 Halotolerant microorganisms, for saline wastewater treatment, 129  
 Heat of vaporization, prediction of, 997  
 Heavy metals, as pollutants, 1005  
 Hetero-fullerene, enumeration of a class of, 361  
 Heuristic method, in prediction of solubility, 483  
 Hexamethylenetetramine, in reaction with graphite oxide, 497  
 Hexanoic acid, esters and amides of, 595  
 Highly substituted furans, synthesis of, 299  
 HPLC, 875, 903, 975, 1303, 1583, 1641  
 Humic acid, characterization of, 413  
 Hybrid battery–capacitor, 1259  
 Hydrogen bonding,  
   in *N*-methylformamide–ether systems, 157  
   in acid–base complexes, 459  
 Hydrogen cyanide, in air analysis of, 813  
 Hydroponical growth, 1361  
 Hydrotalcites, 1251  
*p*-Hydroxybenzoic acid, as the building block in acid–base complexes, 459  
 2-Hydroxy-4-methoxybenzophenone, in dyes, 605  
 Hydroxycinnamic acid, 1641
- ICP-MS, 1453  
 Ion exchange capacity, of polymers, 377  
 Indigotin, in plant extracts, 903  
 Indole, condensation of, 423  
 Indoline dyes, 259  
 Inflorescence, of lavender, 343  
 Insulin-like growth factor-binding protein 1, 1481  
 Intramolecular cyclization, 1463  
 Inulin, 195  
 Inundated soil, 1005  
 Iodine, for activation of acetic anhydride, 165

- Ionic liquids,  
as solvents, 1161  
neutral, synthesis of, 1315
- Iridoids, 739
- Isobutene, oxidative dehydrogenation of, 1115
- Isoiridomyrmezin, 739
- Isoniazid, 229
- Isonicotinic acid (1-naphthylmethylene)-hydrazide, 229
- Isonicotinoylhydrazone, as ligand, 1515
- Isoprenoids, 1605
- Isotherm, in removal of Cu(II) from wastewater, 845
- Isotopic effect, 659
- Juglone, in plant extracts, 903
- $K_2CO_3$ , as catalyst, 789
- $K_2TiGe_3O_9$  in the glass, 1595
- Kekulé structure, of fluoranthene congeners, 1093
- Kindbergia* species, fatty acid chemistry of, 1637
- König method, 813
- Lake trophicity, 717
- Langmuir model, for dye adsorption on waste ash, 855
- Laurus nobilis*, essential oil of, 395
- Lavandula angustifolia*, essential oil composition of, 343
- Lawsone, in plant extracts, 903
- Leukocytes, gene expression patterns in, 1053
- Levisticum officinale* Koch, essential oil of, 1661
- Lidocaine, adsorption of, 433
- LiFePO<sub>4</sub> content, in hybrid battery–capacitor, 1259
- Light fastness, 605
- Lignanamide, 1617
- Liquid–liquid extraction, of gallium(III), 1099
- Liquid waste, of pesticide manufacture, 523
- Lithium insertion capacity, 271
- Long-term spatial and temporal trends, 1125
- Luminol, 333
- Macrocyclic complexes, 217, 475, 763
- Maize seeds, aging of, 323
- Maize starch, resistant starch yield of, 449
- Majorana hortensis*, essential oil composition of, 441
- Malaria, 1533
- Markaracter Table, 91
- Matrix-assisted laser desorption/ionisation time-of-flight, in mass spectrometry, 689
- Mazut, as pollutant, 1605
- Mesoporous alumina, pore surface fractal analysis of, 833
- Metal complexes, with oxime, 1231
- Metallothionein, 1149
- Meteorological data, 703
- N-Methylformamide, FT-IR and NIR study, 157
- Method validation, 975
- Methylprednisolone sodium succinate, 1441
- Metalloporphyrins, consistent force field for, 1671
- Mexiletine hydrochloride, dissolution of the capsules of, 975
- Mg–Fe mixed oxides, as environmental catalysts, 1251
- Microencapsulation, 615
- Microcystin, as pollutant, 1303
- Micronutrient, 951
- Microwave-assisted extraction–esterification, 803
- Microwave-assisted digestion, 113
- Microwave irradiation, in synthesis of organic compounds, 1181
- Mixed-valence complexes, 929
- Model training, 483
- Molecular complex of ethers, as O-electron donors, 157
- Molecular descriptors, in multiple linear regression analyses, 513
- Molecular docking, 1533



- Molecular electrostatic potential maps, 1533  
 Molecular mechanics, 1671  
 Molybdatophosphoric acid, as catalyst, 307  
 Monochloropropanediol, as product of glycerol chlorination, 101  
 Mössbauer phase analysis, of magnetic materials, 1271  
 Multitrophic test battery, 1291  
 Multivariate statistical analysis, 875  
 Multi-wall-carbon nanotubes, 537  
 Muslin cloth, impregnated, for urease immobilization, 175
- Naphthalene, as adsorbent, 669  
 NEPE Propellants, 987  
*Nepeta*, essential oils of, 739  
 Nepetalactone, 739  
 Nd–Fe–B-based hard magnetic material, 1271  
 Ni(II) complexes,  
   with amino acids, 1219  
   with benzothiazolylazo derivatives, 639  
   with biacetyl-derived Schiff bases, 1075  
   with heterocyclics, 61  
   with isonicotinic acid hydrazide and isonicotinic acid (1-naphthylmethylene)hydrazide, 229  
   with oxime, 1231  
   with tetraaza macrocyclic ligand, 935, 1369  
*Nicotiana tabacum* L., waste of, 875  
 Nicotinamide adenine dinucleotide, determination of, 1421  
 Nitrate ester plasticized polyether propellant, 987  
 Nitrilimines, 1473  
 Non-planar conformations, 1671  
 Nordihydroguaiaretic acid, synthesis of, 1325  
 Numerical reconstruction, in localized corrosion, 505
- Ocimum basilicum* L., essential oil composition of, 1361, 1503  
 Octogen, element analysis of, 369  
 2-Octylaminopyridine, as extractant, 1099  
 Oligomer, antistaphylococcal activities of, 1203  
 One-pot reactions, 299  
 Organochloric insecticides, 575  
 Organochlorine pesticides, 565  
 Origin of life, 1381  
 Overstoichiometry, 1271  
 Oxidative dehydrogenation, 1115  
 Oximes, as ligands in Ni(II) complexes, 61  
 Oxo-centered complexes, 929
- Perovskite-like oxides, as catalysts, 249  
 Pesticide production plant, 523  
 1,10-Phenanthroline/2,2'-bipyridine, as ligand, 773  
 Phase separation, in polymer mixture–ionic surfactant ternary system, 823  
 Phenylalkylamines, psychometric activities of, 1391  
*o*-Phenylenediamine, condensation of, 1181  
 Phosphine, chiral, 1  
 Phytoextraction, of copper, 1279  
*Pinus heldreichii*, needle waxes of, 1337  
 Platinum–ruthenium nanocatalyst, 1559  
 Platinum–tin nanocatalyst, 1559  
*Pleurostpermum austriacum*, volatiles of, 1653  
 Pólya theorem, 361  
 Polyacrylonitrile, in proton conducting materials, 377  
 Polyaniline, in nanocomposites, 537  
 Poly(ethylene glycol), as solvent, 1161  
 Polychlorinated biphenyls, in fish hepatopancreas, 1149  
 Polycyclic aromatic hydrocarbons, 1093  
 Polymer–surfactant interaction, 823  
 Polymetallic concentrate, 1733  
 Poly(methyl methacrylate), 1711  
 Polyphenol contents in wines and grapes, 45



- Polysaccharide, 165  
 Polystyrene, as catalyst support, 423  
 Poly(vinyl alcohol), in proton conducting materials, 377  
 Porous silicon ceramics, 385  
 Porous structure, of mesoporous alumina, 833  
 Potable (drinking) water, 575  
 Potentiometry, 1575  
 Prebiotic chemistry, 1381  
 Prometon, as pollutant, 405  
 Prometryn, as pollutant, 405  
 Propanediols, as solvents, 1161  
 Propazine, as pollutant, 405  
 Protease, from *Pseudomonas aeruginosa*, 1041  
 Protease, purification of, 1041  
 Proton conductivity, of polymers, 377  
 Pseudocapacitance, 1413  
*Pseudomonas aeruginosa*, protease from, 1041  
 Pt nanoparticles, 1435, 1559  
 Pullulanase, debranching of, 449  
 Pyrazole-3-carboxylic acid, synthesis of, 1625  
 Pyridopyrimidine, as synthone for heterotricycles, 11  
 Pyridazin, 1625  
 Pyridopyrimidopyrimidine, 11  
 pyridoxal S-methylisothiosemicarbazone, as ligand, 1063  
 Pyrolytic carbon, 271  
 Quantitative structure–retention relationship, 513  
 Quantitative structure–property relationship, 1391  
 Quaternary complexes, of bivalent transition metals, 75  
 Quinoxaline derivatives, synthesis of, 1315  
 Rapid quenched magnetic material, 1271  
 Relative acidity scale, 1575  
 Resistant starch, yield of, 449  
 Reversible addition–fragmentation chain transfer, 1711  
 River water, pollution of, 1291  
*Rhododendron aureum*, essential oil of, 209  
 RNA Isolation, 1053  
 Rutin, 875, 1421  
 Salicylaldoxime ligand, 1231  
 Salicylic acid, as ligand, 75  
 Saline wastewater, removal of pollutants from, 129  
 Saururenin, 1325  
 Scanning electron microscopy, of plasticized polyether propellants, 369, 987  
 Scratch corrosion, 505  
 Scrap tire rubber, as carbon source, 271  
 Seed germination ability, 323  
 Self-purification, of rivers, 1125  
 Sensor, 537  
 Sequential extraction, of heavy metals, 1005  
 Serbian wines, from South-East, 1701  
 Shallow lake, 717  
 Shilajit, humic acid from, 413  
*Sideritis* species, as antioxidants, 1491  
 Silicon complexes, 917  
 Simultaneous distillation and extraction (SDE), 1503  
 Single or double point mutations, of enzymes, 185  
 Sodium borate pentahydrate, in synthesis of phosphate fertilizers with boron, 951  
 Sol–gel process,  
   in preparation of anodes, 1413  
   in  $\text{SiO}_2$  preparation, 385  
   in PEG and La(III)-doped mesoporous alumina preparation, 833  
 Solid–liquid extraction, 669  
 Solvatochromism, solvent effect on, 1019  
 Solvent extraction, of uranium(VI) and thorium(IV), 1549  
 Spectral studies, 639  
 Spectrophotometry, for polyphenols determination, 45  
*Stachys* species, extracts of, 1347

- Steranes and terpanes, 1605  
Stereoselectivity, of reactants, 1  
Stobbe reaction, 1617  
Storage stability, of enzyme, 175  
Sulfoxides, preparation of, from sulfides, 307  
Sulfur dioxide, as pollutant, 703  
Supercritical extraction, of essential oil, 395  
Supramolecular buildings, 459  
Surface fractal dimension, 833  
Surfactant properties, 413  
Sustainable solvents, 1161  
Swelling, 987  
Symmetry-broken method, unrestricted, 1241
- Tacrine hydrochloride, in synthesis of Zn complexes, 1209  
Tautomeric equilibration, 1019  
Tbp geometry, 1085  
Tensiometry, 823  
Template synthesis, of macrocyclic complexes, 475  
Tetraaza macrocycle, 935, 1369  
Textile vat dye, 855  
Thermal analysis,  
    of thorium(IV) complexes, 749  
    of transition metal complexes, 349  
Thermal power plant, 703  
Thermal stability,  
    of graphite oxide, 497  
    of Ni complexes with amino acids, 1219  
    of transition metal complexes, 1515  
Thiamethoxam, determination of, 681  
Thin layer chromatography, 513  
Thiobarbituric acid, Biginelli products of, 1033  
Thiocarbohydrazide, in synthesis of ligands, 629  
Thiosemicarbazide-based ligands, 1063  
Thorium(IV) complexes, 749  
*Thymus glabrescens*, essential oil of, 27  
*Thymus pulegioides*, essential oil of, 27
- Topological index, of molecular graphs of alkanes, 1405  
Trace elements, as atmospheric pollution, 1453  
*Trans* fatty acids, in foodstuffs determination of, 803  
Transdermal permeation enhancers, 595  
Transition metal complexes, 349, 1515  
2,4,6-Trimorpholino-1,3,5-triazi, as adsorbent, 669  
Tree leaves, pollution of, 1453  
Triazine herbicides, removal of, from waters, 405  
1,2,4-Triazole-3-thione, synthesis of, 1463  
Tricresyl phosphate, 681  
Trinuclear complexes, 929  
Triphenylene, 943  
Tristimulus colorimetry, 813  
Trivalent metal Schiff base complexes, 629  
TRI Reagent®, 1053  
Trophic state index, 717  
L-Tryptophan, in Schiff base, 1191
- Underpotential deposition, 1559  
Unit subduced cycle index, 91  
Urea-formaldehyde resins, 689  
Urea hydrogen peroxide, as oxidant, 307  
Urease, immobilization of, 175
- Vaccines, for house dust mite, 19  
Vanadia–molybdena catalysts, in oxidative dehydrogenation of isobutene, 1115  
Vanillin, in Schiff base, 1191  
Verapamil, adsorption of, 433  
Viscosity deviations, in ternary mixtures, 1721  
Viscous antagonism, in ternary mixtures, 1721  
*Vitis vinifera*, Polyphenolic compounds in, 1641  
Voltammetry, 1685  
Volumetric properties, 283
- Waller index, 893  
Washing fastness, 605



- Waste ash, 855  
Waste fungal mycelium, 551  
Waste tire rubber ash, 845  
Waste water, 575, 845  
Weight hourly space velocity of the reaction, 249  
Wiener polarity index, 1405  
Wine analysis, 1701  
Yeast alcohol dehydrogenase, 185  
Zymogenous microbial consortia, 1605

