



Școala Doctorală de Chimie

07.06.2019

TEMATICA PENTRU CONCURSUL DE ADMITERE LA DOCTORAT sesiunea septembrie 2019

Prof. univ. dr. habil. Cecilia ARSENE

**Studiul aerosolilor organici primari generați în atmosferă prin arderea biomasei /
Investigations on atmospheric primary organic aerosols from biomass burning**

Bibliografie

1. Moise, T., Flores J.M., Rudich, Y., Optical properties of secondary organic aerosols and their changes by chemical processes, Chemical Reviews, 115, 4400-4439, 2015.
2. Noziere, B., Kalberer, M., Claeys, M., Allan, J., D'Anna, B., Decesari, S., Finessi, E., Glasius, M., Grgic, I., Hamilton, J.F., Hoffmann, T., Iinuma, Y., Jaoui, M., Kahnt, A., Kampf, C.J., Kourtchev, I., Maenhaut, W., Marsden, N., Saarokoski, S., Schnelle-Kreis, J., Surratt, J.D., Szidat, S., Szmigielski, R., Wisthaler, A., The molecular identification of organic compounds in the atmosphere: state of the art and challenges, Chemical Reviews, 115, 3919-3983, 2015.
3. Olariu, R.I., Vione , D., Grinberg, N., Arsene C., Applications of liquid chromatographic techniques in the chemical characterization of atmospheric aerosols, Journal of Liquid Chromatography and Related Technologies, 38, 322-348, 2015.
4. Seinfeld, J.H. and S.N. Pandis, Atmospheric Chemistry and Physics, From Air Pollution to Climate Change, 3rd Edition, John Wiley, New York, 1998.

Prof. univ. dr. Elena BÎCU

Sinteze de calcone și derivați cu proprietăți speciale / Synthesis of calcones and derivates with special properties

Bibliografie

1. Moise, I.M.; Ghinet, A.; Belei, D.; Dubois, J.; Farce, A.; Bicu, E., New indolizine–chalcones as potent inhibitors of human farnesyltransferase: Design, synthesis and biological evaluation, Bioorganic & Medicinal Chemistry Letters, 26, 3730-3734, 2016.
2. Bansode, T.N.; Rangari, R.P.; Shimpi, P.A., Synthesis and biological evaluation of some novel 6-(substituted phenyl)-4-(10h-phenothiazin-10-yl)pyrimidin-2(1h)-ones/thiones, Pharmaceutical Chemistry Journal, 48(7), 430-433, 2014.



3. Tu, Y., OuYang, Y., Xu, S., Zhu, Y., Li, G., Sun, C., Zheng, P., Zhu, W., Design, synthesis, and docking studies of afatinib analogs bearing cinnamamide moiety as potent EGFR inhibitors, *Bioorganic & Medicinal Chemistry*, 24, 1495–1503, **2016**.
4. Gaonkar, S. L., Vignesh, U.N., Synthesis and pharmacological properties of chalcones: a review, *Res Chem Intermed* 43, 6043-6077, **2017**.
5. Gomes, M.N., Muratov, E.N., Pereira, M., Peixoto, J.C., Rosseto, L.P., Cravo, P.V.L., Andrade, C.H., Neves, B.J., Chalcone Derivatives: Promising Starting Points for Drug Design, *Molecules*, 22, 1210-1235, **2017**.

Prof. univ. dr. Gabi DROCHIOIU

1) Poluanții majori ai mediului: metode specifice de investigare a metalor grele, pesticidelor, cianogenilor etc. / Major environmental pollutants: specific methods for investigating heavy metals, pesticides, cyanogens, etc.

Bibliografie

1. Drochioiu, G., Gradinaru, R. V., Risca, I. M., Mangalagiu, I. Toxicologie-Aplicații în protecția mediului, industrie, agricultură, biologie și criminalistică. Edit. Univ. Al. I. Cuza Iași, **2013**.
2. Airinei, A., Niculescu, A., Drochioiu, G., Rusu, E., Jurcoane, S., Rusu, G. Dinitrophenols-from Chemistry to Life and Health. PIM Publ. House, Iasi, **2010**.
3. Reichenauer, T. G., & Germida, J. J., Phytoremediation of organic contaminants in soil and groundwater. *ChemSusChem*, 1(8-9), 708-717, **2008**.
4. Zaidi, A., Wani, P. A., & Khan, M. S., Bioremediation: A natural method for the management of polluted environment. In *Toxicity of Heavy Metals to Legumes and Bioremediation* (pp. 101-114). Springer Vienna, **2012**.
5. Drochioiu, G., Popa, K., Humelnicu, D., Murariu, M., Sandu, I., & Cecal, A., Comparison of various sensitive and selective spectrophotometric assays of environmental cyanide, *Toxicological and Environ Chemistry*, 90(2), 221-235, **2008**.
6. Surleva, A., Drochioiu, G. A modified ninhydrin micro-assay for the determination of total cyanogens in plants, *Food Chem.*, 141(3), 2788–2794, **2013**.

2) Sinteză de peptide și caracterizarea acestora prin spectrometrie de masă, spectroscopie de infraroșu și microscopie de forță atomică: aplicații biomedicale / Synthesis of peptides and their characterization by mass spectrometry, infrared spectroscopy and atomic force microscopy: biomedical applications

Bibliografie

1. Murariu, M., Drochioiu, G., Dragan, E. S. Sinteză de peptide și interacțiunea acestora cu metalele grele. Edit. Tehnpress, Iași, **2011**.
2. Ciobanu, C.I., Stefanescu, R., Niculaea, M., Teslaru, T., Gradinaru, R., Drochioiu, G., Mass spectrometric evidence for iron binding to the neuroprotective peptide NAP and its Cys5 mutant, *Eur. J. Mass Spectrom.*, 22, 97–104, **2016**.



3. Drochioiu, G., Ion, L., Ciobanu, C., Habasescu, L., Mangalagiu, I., Letter: Mass spectrometric approach of high pH- and copper-induced glutathione oxidation, *Eur. J. Mass Spectrom.*, 19(1), 71–75, **2013**.
4. Murariu, M., Dragan, E. S., Drochioiu, G., Electrospray ionization mass spectrometric approach of conformationally-induced metal binding to oligopeptides. *Eur. J. Mass Spectrom.*, 16(4) 511-521, **2010**.
5. Murariu, M., Dragan, E.S., Drochioiu, G.. IR, MS and CD investigations on several conformationally-different peptides, *Int. J. Pept. Res. Therap.*, 15(4) 303-311, **2009**.
6. Drochioiu, G., Manea, M., Dragusanu, M., Murariu, M., Dragan, E.S., Petre, B.A., Mezo, G., Przybylski, M., Interaction of β -amyloid(1-40) peptide with pairs of metal ions: an electrospray ion trap mass spectrometric model study, *Biophys. Chem.*, 144, 9-20, **2009**.

Prof. univ. dr. Ionel MANGALAGIU

1. Sinteza, structura si proprietatile unor noi azaheterocicluri monoheteroatomice de sase atomi / Synthesis, structure and properties of new monoheteroatomic azaheterocycles with 6 atoms.

Bibliografie

1. Olaru, A., Vasilache, V.; Danac, R., Mangalagiu I.I., Antimycobacterial activity of nitrogen heterocycles derivatives: 7-(pyridine-4-yl)- indolizine derivatives. Part VII, *Journal Of Enzyme Inhibition And Medicinal Chemistry* (*J. Enzym. Inh. Med. Ch.*), 32(1), 1291-1298, **2017**.
2. Mantu, D., Antoci, V., Moldoveanu, C., Zbancioc, Ghe., Mangalagiu, I.I. Hybrid imidazole (benzimidazole) / pyridine (quinoline) derivatives and evaluation of their anticancer and antimycobacterial activity, *Journal Of Enzyme Inhibition And Medicinal Chemistry* (*J. Enzym. Inh. Med. Ch.*), 31(S2), 96-103, **2016**.
3. Al Matarneh, C., Mangalagiu I.I., Shova, S., Danac, R., Synthesis, structure, antimycobacterial and anticancer evaluation of new pyrrolo-phenanthroline derivatives, *Journal Of Enzyme Inhibition And Medicinal Chemistry* (*J. Enzym. Inh. Med. Ch.*), 31(3), 470-480, **2016**.
4. Danac, R., Al Matarneh, C., Shova, S., Daniloaia, T., Balan, M., Mangalagiu I.I., New indolizines with phenanthroline skeleton: synthesis, structure, antimycobacterial and anticancer properties, *Bioorgan. Med. Chem.*, 23, 2318–2327, **2015**.
5. Danac, R., Mangalagiu I.I., Antituberculosis activity of nitrogen heterocycles derivatives: bipyridine derivatives. Part III, *Eur. J. Med. Chem.*, 74, 664-670, **2014**.

2. Noi compusi heterociclici cu doi atomi de azot / New heterocyclic compounds with two nitrogen atoms

Bibliografie

1. Mantu, D., Antoci, V., Nicolescu, A., Deleanu, C., Vasilache, V., Mangalagiu, I.I., Synthesis, stereochemical studies and antimycobacterial activity of new acetylhydrazines pyridazinone, *Curr. Org. Synth.*, 14, 112-119, **2017**.



2. Zbancioc, Ghe., Mangalagiu, I.I., Moldoveanu, C., Ultrasound assisted synthesis of imidazolium salts: an efficient way to ionic liquids, Ultrason. Sonochem., 23, 376-384, **2015**.
3. Zbancioc, Ghe., Zbancioc, A.M., Mangalagiu, I.I., Ultrasound and microwave assisted synthesis of dihydroxyacetophenone derivatives with or without 1,2-diazine skeleton, Ultrason. Sonochem., 21, 802-811, **2014**.
4. Tucaliuc, R., Cotea, V., Niculaua, M., Tuchilus, C., Mantu, D., Mangalagiu, I.I., New Pyridazine–Fluorine Derivatives: Synthesis, Chemistry and Biological Activity. Part II, Eur. J. Med. Chem., 67, 367-372, **2013**.
5. Bejan, V., Mantu, D., Mangalagiu, I.I., Ultrasound and microwave assisted synthesis of isoindolo-1,2-diazine: a comparative study, Ultrason. Sonochem., 19, 999-1002, **2012**.
6. Mangalagiu I.I., Recent Achievements in the Chemistry of 1,2-Diazines, Curr. Org. Chem., 15(5), 730-752, **2011**.

Prof. univ. dr. habil. Romeo-Iulian OLARIU

Studiul degradării atmosferice a unor esteri nesaturați / Atmospheric degradation study of some unsaturated esters.

Bibliografie

1. The Future of Atmospheric Chemistry Research. A report of the National Academies of Sciences, Engineering and Medicine, **2016**.
2. The Mechanisms of Atmospheric Oxidation of the Oxygenates, Calvert, J.G., Mellouki, A., Orlando, J.J., Pilling, M.J., Oxford University Press, New York, **2011**.
3. Chemistry of the Upper and Lower Atmosphere, Theory, Experiments, and Applications, Barbara Finlayson-Pitts James Pitts, Jr., Academic Press, **1999**.

Prof. univ. dr. Aurel PUI

1) Compuși coordinativi cu aplicații biomedicale / Coordinative compounds with biomedical applications

Bibliografie

1. Pui, A., Cozma, D.G., Bazele chimiei compusilor coordinativi, Ed MatrixRom, Bucuresti, **2006**.
2. Mewis, R.E., Archibald, S.J., Biomedical applications of macrocyclic ligand complexes, Coordination Chemistry Reviews, 254, 1686–1712, **2010**.
3. Rimbu, C., Danac, R., Pui, A., Antibacterial Activity of Pd(II) Complexes with Salicylaldehyde-Amino Acids Schiff Bases Ligands, Chem. Pharm. Bull., 62(1) 12–15, **2014**.



2) Nanoparticule magnetice cu diferite aplicații / Magnetic nanoparticles and their applications

Bibliografie

1. Schubert, U., Husing, N., Laine, R., Material Syntheses, Springer Wien NewYork, Springer-Verlag/Wien, **2008**.
2. Wu, L., Mendoza-Garcia, A., Li, Q., Sun, S., Organic Phase Syntheses of Magnetic Nanoparticles and Their Applications, Chemical Reviews, 116, 18, 10473-10512, **2016**.
3. Virlan, C., Tudorache, F., Pui, A., Tertiary NiCuZn ferrites for improved humidity sensors: a systematic study, Arabian Journal of Chemistry, DOI: 10.1016/j.arabjc.2018.03.005, in press, **2018**, open access.

DIRECTOR ȘCOALĂ DOCTORALĂ,

Prof.dr.habil. Cecilia ARSENE