

Inorganic Chemistry - CGA RESEARCH GROUP

Academic year 2017-2018

MEMBERS:

- Assoc.Prof. Augustin Curticăpean, PhD - group responsible
- Senior Lecturer Lavinia Berța, PhD
- Teaching Assistant Boda Francisc, PhD student
- Technician Elena Măcicășan

STUDENTS CURRENTLY INVOLVED:

1. Borș Marcel (Farmacie, an V)
2. Bojan Andrada (Farmacie, an IV)
3. Dumangiu Anca (Farmacie, an IV)
4. Balint Orsolya (Farmacie, an IV)
5. Ciani Tamas (Farmacie, an III)

THEMES:

- Synthesis and characterization of Inorganic Coordination Compounds - Polyoxometalates
- Environmental Protection Applications of New Coordination Compounds
- HPLC Methods Development for Food Safety
- Elemental Analysis by Inductively Coupled Plasma ICP-OES
- Snake Venoms Analysis and Their Biological Activity Studies

RESEARCH EQUIPMENT AND INSTRUMENTS

- Analytical Balance Kern AS 105
- Multiparameter INOLAB 740
- Ultrasonic Bath T700H Elma Transsonic
- Water Purification System Barnstead NanoPure

- UV-Vis Spectrophotometer Analytik Jena SPECORD 210
- Thermogravimeter TGA/DSC Mettler Toledo
- FT-IR Spectofotometer Thermo Nicolet 380
- Capillary Electroforesys System Agilent CE 6100 DAD
- ICP-OES Spectrometer Thermo ICAP6300
- Modular Liquid Chromatography System DIONEX Ultimate 3000
- Modular Ion Chromatography System DIONEX IC3000

ISI ARTICLES OF THE RESEARCH TEAM (as main authors: first author, corresponding author and last author; *students):

1. Lavinia Berța (Grama), Francisc Boda, Gheorghe Borodi, Aura Rusu, Hajnal Kelemen, Adrian Man, Anca Mare, Șerban-Andrei Gâz-Florea. *Two New Sandwich-Type Compounds Based On {Asw₉} With Pd²⁺ And Pt⁴⁺ Cations – Synthesis, Characterization And Antibacterial Activity.* Farmacia 2017,65(1):63-68, IF=1,348
2. Man A., Mare A., Toma F., Curticăpean A., Santacrocce L., *Health Threats from Contamination of Spices Commercialized in Romania: Risks of Fungal and Bacterial Infections, Endoc.Metbol.Immune Dissorders-DrugTargets*, 2016,16(3), ISSN 1871-5303, DOI: 10.2174/18715303166661608231458 17, IF=1.987
3. Curticăpean M., Curticăpean A., *Detection of the genetically modified organisms from food products*, Revista Română de Medicină de Laborator 2014, 22(3),387-395 (DOI: 10.2478/rrlm-2014-0026), IF=0.239;
4. Grama Lavinia, Man A., Muntean Daniela-Lucia, Florea Gâz Ș.A., Boda F., Curticăpean A. *Antibacterial Activity of Some Saturated Polyoxotungstates.* Revista Română de Medicină de Laborator 2014, 22(1),111-118 (DOI: 10.2478/rrlm-2014-0007), IF=0.239;
5. Curticăpean A., Curticăpean M., *Validation of New HPLC Method Determination of Aflatoxin M1 in Raw Milk*, J.Envir.Prot.Ecol. 2013, 14(2) 503-508, ISSN 1311-5065, IF=0.338;
6. Curticăpean A., Toma F., Tarcea M., Curticăpean M., Sămărghișan V., Pop I.A., Gulea A., *HPLC Method Validation for Simultaneous Determination of Three Mycotoxins from Corn Seeds*, Croatica Chemica Acta 2011, 84(3): 413-417, ISSN 0011-1643, DOI: 10.5562/cca1788, IF=0.763;
7. Curticăpean M., Drăgan-Bularda M., Curticăpean A., *The Enzymatic Activity from Tarnita Dam Reservoir Sediment*, J.Envir.Prot.Ecol. 2011, 12(4A), 2141-2151, ISSN 1311-5065, IF=0.102;

8. Curticăpean A., *Metal-Oxygen Clusters from Polyoxometalates Class and Their Applications for Environmental Protection*, J.Envir.Prot.Ecol. 2011, 12(4A), 2089-2100, ISSN 1311-5065, IF=0.102;
9. Curticăpean A., Muntean D., Curticăpean M., Dogaru M., Vari C., *Optimized HPLC method for tramadol and O-desmethyl tramadol determination in human plasma*, J.Biochem.BioPhys.Methods, 2008, 70(6), 1304-1312, ISSN 0165-022X, DOI:10.1016/j.jprot.2008.01.012, IF=1.994;
10. Curticăpean A., Imre S., *New Validated Method for Piracetam HPLC determination in Human Plasma*, J.Biochem.BioPhys.Methods, 2007, 69, 273-81, ISSN 0165-022X, DOI:10.1016/j.jbbm.2006.06.001, IF=1.338;
11. Imre S., Vari C.E., Dogaru T.M., Curticăpean A., Kelemen, L., Muntean, D., *Metformin Determination in Human Plasma*, Revista Farmacia, 2006, LIV (6), 85-93, ISSN 0014-8237, IF=0.144;
12. Toma E., Curticăpean A., Botar A., *Polioxometalati cu activitate biologică*, Revista de Chimie 1997, 2, 129-135, ISSN 0034-7752, IF=0.125;
13. Rusu M., Botar A., Curticăpean A., *Polioxometalati cu As(III) și U(IV)*, Revue Roumain de Chimie 1996, 41(9-10), 687-93, ISSN 0035-3930, IF=0.219;
14. Curticăpean A., Toma E., Botar, A., *Polioxometalati nesaturati ce contin As(III), Sb(III) și Bi(III)*, Revista de Chimie 1996, 12, 1133-6, ISSN 0034-7752, IF=0.125;

BDI ARTICLES OF THE RESEARCH TEAM (as main authors: first author, corresponding author and last author; *students):

1. Rusu A., Popescu G.C., Imre S., Ion V., Vancea S., Grama L.A., Kelemen H., Hancu G., *A New Silver Complex with Ofloxacin - Preliminary Study*, Acta Medica Marisiensis, 2016, 62(2), 192-198 (ISSN 2068-3324);
2. Gâz-Florea A.S., Ciurca D., Mare A., Man A., Cordoș B., Grama L.A., Muntean D.L., *New RP-HPLC Method for Separation of Naja haje haje venom and Studies of Its Bactericidal Effect*, Acta Medica Marisiensis, 2016, 62(1), 90-94 (ISSN 2068-3324);
3. Arion A. G., Torok I., Nagy F., Imre A., Boda F. A., Stefanut C., Ognean L., *The Comparative Evaluation of the Time to Peak Concentration and the Terminal Half-Life of Two Products Based on Praziquantel in a Bioequivalence Study*, Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Veterinary Medicine, 2015, 72(1), 197-198 ISSN (1843-5270).
4. Curticăpean A., *Tradition in Competition to Food Safety, or "Archaic Science" against Brand Name*

Products, Acta Medica Marisiensis, 2014, 60(5):185 (ISSN 2068-3324);

5. Grama Lavinia, Muntean Daniela-Lucia, Curticăpean A. *Unsaturated Heteropolyoxotungstates with Platinum Cation Complexation*. Acta Medica Marisiensis, 2014, 60(2):34-36 (ISSN 2068-3324);
6. Grama Lavinia, Boda F., Curticăpean A., Muntean Daniela-Lucia. *The UV and IR Comparative Spectrophotometric Study of Some Saturated and Lacunary Polyoxometalates*. Acta Medica Marisiensis, 2014, 60(3):84-88 (ISSN 2068-3324);
7. Curticăpean A., Botar A., Rusu M., *Polioxometalatul criptat $Na_{27}[NaAs_4W_{40}O_{140}]$ ca ligand coordinativ pentru Th(IV)*, Studia Univ.Babes-Bolyai, Chemia, 1994, 39(1-2), 90-96, ISSN 1224-7154, Cod CNC SIS 520 (Cat. A);
8. Toma E., Curticăpean A., Botar A., Rusu, M., *Noi polioxometalati ce contin Sb(III) si U(IV)*, Studia Univ.Babes-Bolyai, Chemia, **1994**, 39(1-2), 97-103, ISSN 1224-7154, Cod CNC SIS 520 (Cat. A);

B) ABSTRACTS PUBLISHED BY STUDENTS:

Relevant abstracts with student's contribution*:

1. Boda Ferenc-Andras, Nagy Szilard, **Tolokan Hermina***. Determination of elemental impurities from finished pharmaceutical products. Orvostudományi értesítő **2017**, 90(1):160 (TDK).
2. Lavinia Berța (Grama), F. Boda, **A. Cioloca***, Ș.A. Gâz Florea, Anca Mare, A.Man, A.Curticăpean. *Antifungal activity of $Na_8[HASW_9O_{33}]*17H_2O$ and $Na_6[(AsW_9O_{33})_2Pt_3]*46H_2O$, $Na_{12}[(AsW_9O_{33})_2Pd_3]*24H_2O$ complexes*. Volum de rezumate CNFR **2016** București, UMF "Carol Davila" București; ISSN 2537-2823, pg.79.

Student's participation at scientific meetings:

1. Mathe Rita - *Silver NanoParticles*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2010;
2. Cucuiet Nicola, Ingrid Bidiga - *Mycotoxins evaluation and quantification from raw corn and wheat samples*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2011;
3. Molnar Ervin, Zecheru Ioana - *Mycotoxins and their effects*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2011;

4. Mathe Rita - *Cosmetic Applications of Silver NanoParticles*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2011;
5. Andrada Bejan - *Vitamin D3*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2012;
6. Elena Fracas - *HPLC Methods Optimization for Enantioseparation using Kiral Selectors*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2012 - **Prize Awarded**;
7. Mathe Rita - *Catalysis of SuperOxide Dismutase*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2012 - **Prize Awarded**;
8. Rudolf Scwerin, Gorbai Adel - *Deoxynivalenol and Fumonisine Contamination of Fodder for Animals*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2013;
9. Valentin Ion - *Developping an optimal SPE extraction method of human hepcidine peptide and quantify it with the help of a LC*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2013, **Prize Awarded**;
10. Berdan Anca - *Mycotoxins. Study of Acute and Chronic Toxicity on Humans and Animals*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2015;
11. Georgiana Mănica - *Fully Automated Electrophoretically Mediated Microanalysis System for CYP1A1 Activity Monitoring*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2016, **Prize Awarded**;
12. Raluca Țîru - *Synthesis of Vanadium Complexes With Free L-a-AminoAcids Ligands Used in Optimization of the Sulfoxidation Reaction*, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2016, **Prize Awarded**.

TgMureș, 1.11.2017, Conf.dr. Augustin Curticapean

