Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Christina Marie Zalaru**
Address(es)	University of Bucharest, Department of Inorganic Chemistry, Organic, Biochemistry and Catalysis Department, 90-92 Panduri Road 030118, Bucharest
Telephone(s)	Mobile: 0744296197
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E-mail	christina.zalaru@chimie.unibuc.ro
Nationality	Romanian
Date of birth	05.05.1964
Gender	F

Desired employment / Occupational field	University of Bucharest, Faculty of Chemistry, Dept. of Inorganic Chemistry, Organic, Biochemistry and Catalysis

Teaching and research activity

Dates Occupation or position held	10. 05.2003- present Associate Professor PhD in Department of Organic Chemistry, Biochemistry and Catalysis
	21/02/2000 – 10.05.2003 Lecturer PhD in Organic Chemistry Department
	01/04/1993 – 10.05.2000 The title of Doctor in the field of Chemistry PhD “2-N-pyrazol-1-yl-acetanilides” (no. 3774 / 10.05 2000)
	01/02/1991 - 21/02/2000 University assistant in Organic Chemistry Department
	1983-1987
	Faculty of Chemical Technology
Teaching: Courses taught	Organic Chemistry. Fundamentals (II) Polyfunctional Compounds and Heterocycles Biomolecules Chemistry Applications
	Organic pollutants in water
	Natural compounds with therapeutic action Multifunctional and heterocyclic organic compounds Organic chemistry of biomolecules and organic stereochemistry
	Synthesis of pharmaceutical compounds

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user
French	B2	Independent user	B2	Independent user	B1	Independent user	B2	Independent user	B2	Independent user
German	B2	Independent user	B2	Independent user	B1	Independent user	B2	Independent user	B2	Independent user

(*) Common European Framework of Reference for Languages

Organisational skills and competences

Technical skills and competences: Physical chemistry methods used for characterization of substances : UV-VIS, FTIR, RMN spectroscopy, Mass Spectrometry, GC-MS spectroscopy

Computer skills and competences: Experience in programming (Pascal), Chemistry programs (ChemDraw, Isis)
abstracts database: Current Contents, Chemistry Citation Index (ISI), Medline), office: (MSOffice), graphical applications: (Adobe PhotoShop, communications: (InternetExplorer, OutlookExpress, Netscape)

Additional information

Member of Romanian Chemistry Society

Annexes

List any items attached.

RESEARCH INTEREST

Experience in the field of research, with a scientific activity focused both on the synthesis of organic compounds and on obtaining extracts from plant materials.

Experience in the synthesis of heterocyclic compounds with biological activity:

- amide derivatives of pyrazoles with local anesthetic, antiarrhythmic, analgesic, anticonvulsant activity;
- aminopyrazole derivatives, Mannich bases with antidiabetic, antibacterial, antibiofilm, antitumor activity;
- hybrid heterocyclic compounds such as benzimidazolo-pyrazoles, triazolo-pyrazoles with antibacterial, antibiofilm activity;
- Schiff bases derived from formyl-camphor, formyl-menthone, formyl-carvone with aromatic amines.
- separation of enantiomers from the racemic mixture;
- experience in the extraction of active principles from medicinal plants by conventional and non-conventional methods such as ultrasonication;
- isolation of the active principles from the extracts obtained for the purpose of physico-chemical characterization and testing of their biological properties;
- experience in the analytical methods specific to organic chemistry in order to elucidate the structure and investigate the physical-chemical properties (NMR, UV-VIS, IR, MS).

SIGNIFICANT SKILLS

Laboratory experience: Organic Synthesis: Synthesis and purification of organic compounds. Characterization of new heterocyclic compounds with RMN, MS, IR and UV-Vis spectroscopy.

PARTICIPATION TO PROJECTS, GRANTS AND RESEARCH CONTRACTS

Research-Projects	Function	Period
1. MCT 3009/1994 "The synthesis and the study of some molecular compounds and complexes of some compounds carbocycles and heterocycles with anorganic and organic acceptors"	Member	1994-1997
2. CNCSIS 586/1/1997 "The synthesis and the study of some complexes of a cyclic and heterocyclic compounds with anorganic acceptors"	Member	1997-2000
3. Contract external "Benefition of Medicinal Agents", University of Cape Town	Member	2002
4. Contract CEEX nr. 51/2005 "New structures with possible action antidiabetic/against obesity beta agonist receptors–3-adrenergics multidisciplinars researches" (VIASAN)*	Project Manager Partner 2 UB	2005-2007
5. Exploratory research Contract IDEI PN-II-ID-PCE-2001-3 "Multifunctional stable radicals in supramolecular high-spin architectures and materials	Member	2011-2013
6. Contract RSRP#IZERO-142144/1 Co financed PN-II IDEI RSRP	Member	2012-2013
7. Contract PED 2019 nr. 381PED/2020 Technologies for obtaining of natural products with immunostimulatory properties	Project Director	2020-2022

PUBLISHED PAPERS

Articles Total 37_ISI_ BDI_4

37. A.I. Gavrila, **Ch. Zalaru**, R. Tatia, A.-M. Seciu-Grama, C. Negrea, I. Calinescu, P. Chipurici, A. Trifan, I. Popa, Green Extraction Techniques of Phytochemicals from *Hedera helix* L. and *In Vitro* Characterization of the Extracts. *Plants* **2023**, *12*(22), 3908; https://doi.org/10.3390/plants12223908

36. R. Tatia, I. Tarcomnicu, Z. Moldovan, A.D. Raiciu, L. Moldovan, **Ch. Zalaru*,** In vitro antiproliferative activity of triterpenoid saponins from leaves of *Hedera helix* L. grown in Romania. *S. Afr. J. Bot*. 158, **2023**, 1-7. https://doi.org/10.1016/j.sajb.2023.04.018

35. A.I. Gavrila, R. Tatia, A.-M. Seciu-Grama, I. Tarcomnicu, C. Negrea, I. Calinescu, **Ch. Zalaru,** L. Moldovan, L.; A.D. Raiciu, I. Popa, Ultrasound Assisted Extraction of Saponins from Hedera helix L. and an In Vitro Biocompatibility Evaluation of the Extracts. *Pharmaceuticals*, 2022, 15 (10), 1197. https://doi.org/10.3390/ph15101197

34. Ch. Zalaru*, F. Dumitrascu, C. Draghici, I. Tarcomnicu, M. Marinescu*, G.M. Nitulescu, R. Tatia, R.; L. Moldovan, M. Popa, M.C. Chifiriuc, New Pyrazolo-Benzimidazole Mannich Bases with Antimicrobial and Antibiofilm Activities. *Antibiotics*, 2022, 11 (8), 1094. https://doi.org/10.3390/antibiotics11081094

33. M. Marinescu, **Ch. Zalaru,** Synthesis, Antibacterial and Anti-Tumor Activity of Pyrazole Derivatives. *In Recent Trends in Biochemistry*; MedDocs eBooks, Ed.; Chapter 3, 2021, 18-27. https://doi.org/10.3390/antibiotics10081002

32. A.M.; Toader; M.C. Buta; F. Cimpoesu; A.I. Toma; **Ch.M. Zalaru**; L.O. Cinteza; M. Ferbinteanu, New Syntheses, Analytic Spin Hamiltonians, Structural and Computational Characterization for a Series of Tri-, Hexa-and Hepta-Nuclear Copper (II) Complexes withwith Prototypic. *Chemistry (Switzerland)*, 2021, 3 (1), 411-439. https://doi. 10.3390/chemistry3010031

31. Ch. Zalaru, M. Marinescu, Benzimidazole compounds with anti-tumor and antibacterial activities. *In Benzimidazole: Preparation and Applications*; Vestergaard, A.A., Ed.; Nova Science Publishers: Hauppauge, NY, USA, 2020, 221-250.

30. M. Marinescu, L.O. Cinteza, G.I. Marton, M.C. Chifiriuc, M. Popa, I. Stanculescu, **Ch. Zalaru**, C.E. Stavarache, Synthesis, density functional theory study and in vitro antimicrobial evaluation of new benzimidazole Mannich bases, *BMC Chemistry*, 2020, 14 (1), 45 Open Access. https://10.1186/s 13065-0210-00697-z

29. A.M. Toader, S.D. Zaric, **Ch. Zalaru**, M. Ferbinteanu, The structural details of aspirin molecules and crystals, *Current Medicinal Chemistry*, 2020, 27 (1), 99-120. https://doi. 10.2174/0929867325666181031132823

28. M. Marinescu, L.O. Cinteza, C. Stavarache, **Ch. Zalaru**, M. Popa, M.C. Chifiriuc, Novel pyrazolones as antimicrobials. BOOK OF ABSTRACTS, 2019,11 (6), 72.

27. R. Tatia, **Ch Zalaru***, O. Craciunescu, L. Moldovan, A. Oancea, I. Calinescu, Optimization of triterpene saponins mixture with antiproliferative activity, *Applied Sciences* (Switzerland), Open Access, 2019, 9 (23), 5160 https://doi.org/10.3390/app9235160

26. C.M. Buta, M.M. Radu, A. Mischie, **Ch.Zalaru**, G. Ionita, M. Ferbinteanu, Experimental and computational characterization of structural and spectroscopic features of mixed ligand copper complexes-prototypes for square-pyramidal stereochemistry. *Polyhedron* **2019** 170 771-782. https://10.1016/j.poly.2019.06.046

25. R. Tatia, **Ch. Zalaru**, I. Tarcomnicu, L. Moldovan, O. Craciunescu, I. Calinescu, Isolation and characterization of hederagenin from *Hedera helix* L. Extract with antitumor activity. *Rev. Chim. (Bucharest)* **2019** 70 (4) 1157-1161. https://10.37358/RC.19.4.7084

24. Ch. Zalaru*, F. Dumitrascu, C. Draghici, I. Tarcomnicu[c*], R. Tatia, L. Moldovan, M.C. Chifiriuc, V. Lazar, M. Marinescu, M.G. Nitulescu, M. Ferbinteanu. Synthesis, spectroscopic characterization, DFT study and antimicrobial activity of novel alkylaminopyrazole derivatives. *J. Mol. Struct*. **2018** 1156 12-21. https://10.1016/j.molstruc.2017.11.073

23. M. Marinescu, D.G. Tudorache, G.I. Marton, **Ch. Zalaru**, M. Popa, M.C. Chifiriuc, E. Stavarache, C. Constantinescu, Density functional theory molecular modeling, chemical synthesis, and antimicrobial behavior of selected benzimidazole derivatives. *J. Mol. Struct.* **2017** 1030 463-47. https://10.1016/j.molstruc.2016.10.066

22. C.C. Crisan, M. Buleandra, I. Calinescu, **Ch. Zalaru**, I.G. David, I.A. Badea, Chemical composition of the aerial part and fruits of *Coreopsis tinctoria*. *Chem. Nat. Comp.* **2015** 51(3) 571-572. https://10.1007/s10600-015-1348-y

21. M. Buleandra, C. C. Crisan, I. Calinescu, **Ch. Zalaru**, I. G. David, I. A. Badea, Rapid Analysis of the volatile Components of *Gaillardia aristata* and *G. x grandiflora. Chem. Nat. Comp.,* **2015** 51(4) 787-789. https://10.1007/s10600-015-1413-6

20. M. Marinescu, **Ch. Zalaru**, M. Florea, P. Ionita, Thermal behavior of several stable hydrazyl free radicals and of their parent hydrazines, *Journal of thermal analysis and calorimetry.* **2014** *116* 259-263. https://10.1007/s10973-013-3448-x

19. Ch. Zalaru*, F. Dumitrascu, C. Draghici, M. Iovu, M, Marinescu, I. Tarcomnicu, G. M. Nitulescu, Synthesis and biological screening of some novel 2-(1*H*-pyrazol-1-yl)-acetamides as lidocaine analogue. *Indian J.Chem. B* **2014**, 53B (6) 733-739.

18. Ch. Zalaru, C.C. Crisan, I. Calinescu, Z. Moldovan, I. Tarcomnicu, S.C. Litescu, R. Tatia, L. Moldovan, D. Boda, M. Iovu, Polyphenols in *Coreopsis tinctoria* Nutt. fruits and the plant extracts antioxidant capacity evaluation. *Central European Journal of Chemistry* **2014** 12 (8) 858-867. https://10.2478/s11532-014-0539-x

17. C. C. Crişan, I. Călinescu, T. Dobre, **Ch. Zălaru**, Calculation of Separation Processes used for the Extraction of Active Principles from Fruits of *Coreopsis tinctoria* Nutt. *Rev. Chimie (Bucuresti)* **2013** 64(4) 366-371.

16. Branko J. Drakulić, **Christina Zalaru**, Mircea Iovu, Acute toxicity of substituted 2-(1H-pyrazol-1-yl)acetanilides and related commercially available local anesthetics toward mice. A GRIND/ALMOND-based 3-D QSAR study. *QSAR Comb. Sci.* **2009** *28* (2) 206-217. https://10.1102/qsar.200860058

15. Ch. Zalaru, M. Caira, F. Dumitrascu, C. Draghici, E. Cristea, Synthesis, spectroscopic, and X-ray structural characterization of pharmacologically active substituted pyrazolyl-acetanilides. *Struct. Chem*. **2009** 20 377-385. https://10.1007/s11224-009-9407-2

14. Ch. Zalaru, F. Dumitrascu, C. Draghici, E. Cristea, I. Tarcomnicu Pharmacologically active 2-(1H-pyrazol-1-yl)acetamides, , *Arkivoc*, **2009** (ii), 308-314.

13. Ch. Zalaru, F. Dumitrascu, I. Tarcomnicu, M. Neata, New pyrazole derivatives with potential local anesthetic activity, *Rev. Roum.Chim*. **2008** *53 (4)* 267-271.

12. Ch. Zalaru, M. Caira, M. Iovu, E. Cristea, X-ray structures and pharmacological activities of lidocaine derivatives. *Struct. Chem*., **2008** *19* 917-922. https://10.1007/s11224-008-9376-x

11. Ch. Zălaru, M. Iovu, F. Zălaru, A. Meghea, M. Giurginca, M. Plăveţ, Coordination compounds of Cu(II) with some substituted 2-(3,5-dimethyl-pyrazol-1-yl)-methyl-acetanilides as ligands. *J. Serb. Chem. Soc*. **2007** *73 (3)* 251-257.

10. Ch. Zalaru, F. Dumitrascu, C. Draghici, New pyrazole derivatives as lidocaine analogue. *Rev. Chim. (Bucuresti")* **2007** *58 (11)* 1054-1056.

9. Ch. Zălaru, G. Putina, F. Dumitrascu, C. Draghici, New Mannich bases with pharmacological activity. *Rev. Chimie (Bucuresti)* **2007** 5*8 (8)* 773-775.

8. Ch. Zălaru, M. R. Caira, M. Iovu, E. Cristea, X-ray structures of pharmacologically active 2-(3,5-dimethyl-pyrazol-1-yl)-methylacetanilides. *J. Chem. Crystallogr.* **2007** *37* 623-628. https://10.1007/s10870-007-9221-x

7. F. Zălaru, F. Dumitraşcu, **Ch. Zălaru,** M. Contineanu, Coordination compounds of some metals (II) with 1-phenyl-pyrazole-3,4-dicarboxylic acid. *Rev. Chim. (Bucuresti)* **2007** 58 (3) 332-334**.**

6. F. Zălaru, F. Dumitraşcu, **Ch. Zălaru**, M. Plăveţ, M. Contineanu, Coordination compounds of Cu(II), Ni(II), Zn(II) ith 1-(2-methyl-phenyl)-pyrazole-3,4-dicarboxylic acid. *Rev. Roum.Chim*. **2006** 51 (11) 1053-1057.

5. Ch. Zălaru, M. R. Caira, M. Iovu, E. Cristea, X-ray structures of new substituted 2-(pyrazol-1-yl)-2'-nitroacetanilides. *J. Chem. Crystallogr.* **2004** *34 (5)* 317-324. https://**10.1023/B:JOCC.0000026277.65192.2d**

4. M. Iovu, **Ch. Zălaru**, F. Dumitraşcu, C. Drăghici, M. Moraru, E. Cristea, New substituted 2-(pyrazol-1-yl)-dialkylacetanilides with potential local anesthetic and antiarrhytmic action. Part. II., *Farmaco* **2003** *58* 301-307. https://10.1016/S0014-82X(02)00014-9

3. A. Ciobanu, F. Zălaru, **Ch. Zălaru**, F. Dumitraşcu, C. Drăghici, Coordination compounds of Cu (II) with Schiff bases derived from formylmenthone and aromatic amines, *Acta Chimica Slovenica* **2003** 50 441-450.

2. M. Iovu, **Ch. Zălaru**, F. Dumitraşcu, C. Drăghici, E. Cristea, "New 2-(pyrazol-1-yl)-*o*-, *m*-, *p*-methylacetanilides with potential local anesthetic and antiarrhythmic action. Part I.", *Farmaco*, **2000, *5***5,362-368. https://10.1016/S0014-82X(00)00052-5

1. F. Zălaru, C. Cercasov, A. Meghea, **Ch. Zălaru**, C. Jalea, Cu(II) Coordination compounds with thioamides. *Rev.Roum.Chim*. **1991** *36* 11-12, 1279-1285.

Articles BDI

4. A.M. Toader, M.C. Buta, F. Cimpoesu, A.I. Toma, **Ch. Zalaru,** L. Cinteza, M. Ferbinteanu**,** New Syntheses, Analytic Spin Hamiltonians, Structural and Computational Characterization for a Series of Tri-, Hexa- and Hepta-Nuclear Copper (II) Complexes with Prototypic Patterns, 3(1), 411-439, 2021 Chemistry

3. R. Tatia, A. Toma, L. Moldovan, **Ch. Zalaru***, I. Calinescu, Phytochemical and antiproliferative potential of hedera helix extract fractions 83(1), 91-100, 2021, UPB

2. M. Marinescu, **Ch. Zalaru**, P. Ionita, A computational study on some hydrazyl radicals and congeners. *UPB Scientific Bulletin, Series B:Chemistry and Materials Science* **2014** 76(1) 175-184. ISSN:1454-2331.

1. C.C. Crisan, I. Calinescu, **Ch. Zalaru**, Z. Moldovan, Techniques for extracting polyphenols from *Coreopsic tinctoria* nutt**.** Fruits. **2013,** *UPB Scientific Bulletin, Series B:Chemistry and Materials Science* **2013** 75(4) 169-178. ISSN:1454-2331.

PUBLISHED BOOKS

1. Organic Chemistry biologically active compounds practical works, authors**:** **Christina Marie Zalaru**, Petre Ionita, Irina Zarafu, Maria Marinescu, Ioana Nicolau, Lavinia Ruta, Editia a doua, Ed. Univ. Bucuresti, **2016**, (ISBN-978-606-16-0742-6)
2. Organic chemistry Exercises, authors: **Christina Zalaru,** Maria Marinescu**,** Ed. Univ. Bucuresti, **2013**, (ISBN-978-606-16-0325-1)
3. Organic environmental pollutants' Ed. a II-a, authors**:** Elena Popa, **Christina Zalaru**, Ion Baciu, Ed. Univ. Bucuresti, **2013**, (ISBN-978-606-16-0228-5)
4. Organic Chemistry Course Edition 2-review and add, authors: **Christina Zalaru**, Cornelia Cercasov, Adalgiza Ciobanu**;** Ed. Univ. Bucuresti, **2012,** (ISBN 978-606-16-0085-4)
5. Organic environmental pollutants' authors: Elena Popa, **Christina Zalaru**, Ion Baciu, Ed. Univ. Bucuresti, **2007**, (ISBN-978-973-737-262-8)
6. Course of organic chemistry – for the specialization of Radiochemistry, authors: **Christina Zalaru**, Cornelia Cercasov, Adalgiza Ciobanu**;** Ed. Univ. Bucuresti, **2003** (ISBN 973-575-762-1)
7. Practical works of organic chemistry for the specialization of Radiochemistry, author: **Christina Zalaru**, Ed. Univ. Bucuresti, **2003,** (ISBN 973-575-734-6)

Date: 23.11.2023 Christina Marie Zalaru