

CURRICULUM VITAE

Mihail Lucian BIRSA

University professor, Faculty of Chemistry

"Alexandru Ioan Cuza" University of Iasi

11, Carol I Bvd.

Iasi - 700506

Romania

Tel: + 40 232 201349

Fax: + 40 232 201313

E-mail: lbirsa@uaic.ro

Date of birth: August 9, 1970

Place of birth: Adjud - Vrancea

Marital status: married + 2

Permanent address: Iasi, Romania

Education:

- The Industrial Lyceum of Adjud (1984 - 1988).
- Faculty of Chemistry - "Al. I. Cuza" University of Iasi, section chemistry, specialisation organic chemistry (1990 - 1995).
- Master's degree of Faculty of Chemistry - "Al. I. Cuza" University of Iasi, specialisation "Chemistry of Heterocycles" (1995 - 1996).
- Ph.D., "Al. I. Cuza" University of Iasi, Romania; Public defence: May 26, 2000.
- Habilitation, "Al. I. Cuza" University of Iasi - June 2015.

Academic and professional positions:

- Preparator, Faculty of Chemistry - "Al. I. Cuza" University of Iasi, 1996-1998.
- Assistant, Faculty of Chemistry - "Al. I. Cuza" University of Iasi, 1998-2001.
- Lecturer, Faculty of Chemistry - "Al. I. Cuza" University of Iasi, 2001-2006.
- Associate Professor, Faculty of Chemistry - "Al. I. Cuza" University of Iasi, 2006-2015.
- Professor in the Department of Chemistry - "Al. I. Cuza" University of Iasi, since 2015.
- Head of Chemistry Department, Faculty of Chemistry - "Al. I. Cuza" University of Iasi, since 2008.
- **Member of the Alexander von Humboldt Foundation**, since 2003.

Fellowships: - Bar-Ilan University, Israel, October 2000 – September 2002.

- Alexander von Humboldt Foundation fellowship in Institute of Organic Chemistry, Technical University Braunschweig, Hagenring 30, D-38106, Braunschweig, 2003-2005.

- Alexander von Humboldt Foundation return fellowships, Institute of Organic Chemistry, Technical University Braunschweig, 2006, 2007, 2008, 2012, 2016.

Visiting professorships: Technical University Braunschweig, 2006-2016.

Areas of research: organic synthesis, cyclophanes, acetylenes, allenes, sulfur compounds, carbanions and elimination reactions.

Publications:

- 26 books/contribution to books:

- 1 published by Georg Thieme Verlag (Braverman, S.; Cherkinsky, M.; **Birsa, M. L.**, $X=C=X$, $X=O$, S, Se, Te, N, P. CO_2 , COS, CS_2 , Isocyanates, Isothiocyanates, Carbodiimides, Se, Te, P Analogs in *Science of Synthesis, Houben-Weyl Methods of Molecular Transformations*, Georg Thieme Verlag, Stuttgart, Vol. 18.2; 2005, pp 55-310).

- 24 published by John Wiley & Sons (*Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms* and *Elimination Reactions* in **Organic Reaction Mechanisms** series, Knipe, A. C. Ed., John Wiley & Sons, Chichester).

- 102 scientific papers (12 located in Q1 - red zone, 13 located in Q2 - yellow zone of SCImago Journal Rank (SJR)).

- 1 patent and 15 contributions to academic conferences.

Foreign languages: English

Referees : - **Prof. dr. Henning Hopf**, Institute for Organic Chemistry, Technical University Braunschweig, Hagenring 30, D-38106, Braunschweig, Germany; e-mail: h.hopf@tu-bs.de; fax: +495313915388

- **Prof. dr. Samuel Braverman**, "Bar-Ilan" University, Department of Chemistry, 52900 Ramat-Gan, Israel 52900; e-mail: bravers@mail.biu.ac.il ; fax: +97235351250

Prof. dr. habil. MIHAIL LUCIAN BÎRSĂ

List of Publications

A. Ph. D. Thesis

Researches on the Synthesis and Reactivity of some 1,3-Dithiolium Salts, "Al.I. Cuza" University of Iasi, Romania, 2000.

B. Books / Contributions to books

1. Bîcu, E.; **Birsa, M. L.**; Belei, D.; Sarbu, D., *Chimie Organică – Exerciții și Probleme*, Pim, Iași, 2003, 246 pp.
2. Braverman, S.; Cherkinsky, M.; **Birsa, M. L.**, *X=C=X, X=O, S, Se, Te, N, P. CO₂, COS, CS₂, Isocyanates, Isothiocyanates, Carbodiimides, Se, Te, P Analogs in Science of Synthesis, Houben-Weyl Methods of Molecular Transformations*, Georg Thieme Verlag, Stuttgart, Vol. 18.2; 2005, pp 55-310.
3. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2003*, Knipe, A. C., Ed., John Wiley & Sons, Chichester, 2007, pp 293-331.
4. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2004*, Knipe, A. C., Ed., John Wiley & Sons, Chichester, 2008, pp. 331-342.
5. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2005*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2008, pp. 249-276.
6. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2005*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2008, pp. 277-285.
7. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2006*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2010, 277-306.
8. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2006*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2010, 307-316.
9. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2007*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2011, 239-264.

10. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2007*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 265-274.
11. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2008*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 253-266.
12. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2008*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2011, 225-252.
13. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2009*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2011, 309-332.
14. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2009*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 333-344.
15. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2010*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2012, 265-284.
16. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2010*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2012, 285-297.
17. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2011*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2014, 339-360.
18. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2011*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2014, 361-370.
19. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2012*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2015, 307-324.
20. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2012*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2015, 325-331.
21. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2013*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2016, in press.
22. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2013*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2016, in press.
23. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2014*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2016, in press.
24. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2014*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2016, in press.
25. **Birsa, M. L.**, *Carbanions and Electrophilic Aliphatic Substitution in Organic Reaction Mechanisms 2015*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2017, in press.
26. **Birsa, M. L.**, *Elimination Reactions in Organic Reaction Mechanisms 2015*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2017, in press.

C. Articles published in international journals

1. Seliger, H., Happ, E., Cascaval, A., **Birsa, M. L.**, Nicolaescu, T., Poinescu, I., Cojocariu, C., "Synthesis and characterization of new photostabilizers from 2,4-dihydroxybenzophenone", *Eur. Polym. J.*, **35**, 827- 833 (1999).
2. **Birsa, M. L.**, "A new approach to preparation of 1,3-dithiolium salts", *Synth. Commun.*, **31**, 1271-1275 (2001).
3. Braverman, S., Cherkinsky, M., **Birsa, M. L.**, Tichman, S., Goldberg, I., "Synthesis and structure of novel sulfur bridged cyclic di- and tetraalkynes", *Tetrahedron Lett.*, **42**, 7485-7488 (2001).
4. **Birsa, M. L.**, "Synthesis of some new substituted flavanones and related 4-chromanones by a novel synthetic method", *Synth. Commun.*, **32**, 115-118 (2002).
5. Braverman, S., Cherkinsky, M., **Birsa, M. L.**, Zafrani, Y., "Base catalyzed reactivity of sulfur and selenium bridged cyclic alkynes", *Eur. J. Org. Chem.*, **2002**, 3198-3207.
6. **Birsa, M. L.**, Cherkinsky, M., Braverman, S., "Thermal rearrangements of bis-allenyl thiosulfonates", *Tetrahedron Lett.*, **43**, 9615-9619 (2002).
7. **Birsa, M. L.***, Ganju, D., "Synthesis and UV/Vis spectroscopic properties of new [2-(*N,N*-dialkylamino)-1,3-dithiolium-4-yl]phenolates", *J. Phys. Org. Chem.*, **16**, 207-212 (2003).
8. **Birsa, M. L.**, "Reaction of 4-(2'-hydroxyaryl)-1,3-dithiolium salts with sodium sulfide. A selective synthesis of 2'-hydroxyacetophenones", *Synth. Commun.*, **33**, 3071-3076 (2003).
9. **Birsa, M. L.**, "Synthesis of some 4-(2'-hydroxyaryl)-5-ethyl-2-(*N,N*-dialkylamino)-1,3-dithiolium salts", *Sulfur Lett. (J. Sulfur Chem.)*, **26**, 155-162 (2003).
10. Levi, M. D., Gofer, Y., Cherkinsky, M., **Birsa, M. L.**, Aurbach, D., Berlin, A., "Electroanalytical features of non-uniformly doped conducting poly-3-(3,4,5-trifluorophenyl)thiophene films", *Phys. Chem. Chem. Phys.* **5**, 2886-2893 (2003).
11. Braverman, S.; Cherkinsky, M.; **Birsa, M. L.**; Gottlieb, H. E., "Facile synthesis and Diels-Alder reactions of 2,6-divinyl-1,4-dithiin", *Synthesis* **2003**, 849-852.
12. **Birsa, M. L.**, Hopf, H., "Pseudo-geminal [2.2]-paracyclophane as spacer for bisallenyl sulfoxides and sulfones", *Phosphorus, Sulfur, and Silicon, and the Related Elements* **180**, 1453-1454 (2005).
13. **Birsa, M. L.**, Jones, P. G., Hopf, H., "Transannular hydride migration in pseudo-geminally substituted [2.2]paracyclophanes: A vinylogous pinacol rearrangement", *Eur. J. Org. Chem.*, **2005**, 3263-3270.
14. **Birsa, M. L.**, Jones, P. G., Braverman, S., Hopf, H., "Pseudo-geminally substituted [2.2]paracyclophanes as spacer for bisallenyl sulfoxides and sulfones", *Synlett*, **2005**, 640-642.

15. **Birsa, M. L.***, Hopf, H., "Synthesis of α,β -unsaturated pseudogeminal [2.2]paracyclophane bisketones", *Synlett*, **2007**, 2753-2756.
16. **Birsa, M. L.***, Asaftei, I. V., "Solvatochromism of mesoionic iodo(1,3-dithiol-2-ylum-4-yl)phenolates", *Monat. Chem.* **139**, 1433-1438 (2008).
17. **Birsa, M. L.**, Hopf, H., "A new way to generate functionalized bridges in [2.2]cyclophanes", *Synlett*, **2009**, 3000-3002.
18. Belei, D., Bicu, E., Jones, P. G., **Birsa, M. L.**, "A new synthetic methodology for the pyrrolidine ring", *Synlett*, **2010**, 931-933.
19. **Birsa, M. L.**, Hopf, H., "A new bridge in [2.2]cyclophanes: The addition of Se_2Cl_2 to *pseudo-geminally* substituted bispropargylic alcohols", *Heteroatom Chem.*, **21**, 126-130 (2010).
20. Belei, D., Bicu, E., Jones, P. G., **Birsa, M. L.**, "A selective synthesis of enamines vs. aziridines", *J. Heterocycl. Chem.*, **48**, 129-134 (2011).
21. **Birsa, M. L.**, Jones, P. G., Hopf, H., "Orthogonal π -bridges in [2.2]paracyclophanes", *Synlett*, **2011**, 259-261.
22. Sarbu, L. G., Birsa, A., Hopf, H., **Birsa, M. L.**, "New bridges in [2.2]paracyclophanes: The interaction of chalcogenide halides with *pseudo-geminal* triple bonds", *Phosphorus, Sulfur, and Silicon, and the Related Elements*, **186**, 1246-1250 (2011).
23. **Birsa, M. L.***, Jones, P. G., Hopf, H., "[2.2]Paracyclophanes with new bridges", *Synfacts*, **2011**, 387.
24. Gosav, S., Praisler, M., **Birsa, M. L.**, "Principal component analysis coupled with artificial neural networks", *Int. J. Mol. Sci.*, **12**, 6668-6684 (2011).
25. Belei, D., Abuhaie, C., Bicu, E., Jones, P. G., Hopf, H., **Birsa, M. L.**, "A direct synthesis of octahydropyrrolo[2,1,5-*cd*]indolizin-6-one derivatives", *Synlett*, **23**, 545-548 (2012).
26. Chirita, P., Hrib, C. G., **Birsa, M. L.**, "5-Bromo-4-(3,5-dibromo-2-hydroxyphenyl)-2-(piperidin-1-yl)-1,3-dithiol-2-ylum bromide", *Acta Cryst.* **E69**, o1097 (2013).
27. Sarbu, L. G., Hrib, C. G., **Birsa, M. L.**, "rac-1-(5-Bromo-2-hydroxyphenyl)-1-oxopropan-2-yl morpholine-4-carbodithioate", *Acta Cryst.* **E69**, o1169 (2013).
28. Bahrin, L. G., Hrib, C. G., **Birsa, M. L.**, "4-Bromo-2-[5-methyl-2-(morpholin-4-yl)-1,3-thiazol-4-yl]phenol", *Acta Cryst.* **E69**, o1170, (2013).
29. Lungu, N. C., Sandu, I., Chirita, P., **Birsa, M. L.**, "New water soluble 1,3-dithiolium salts", *Rev. Chim. (Bucharest)*, **64**, 697-700 (2013).
30. Buhaceanu, R., Lungu, N. C., Forna, N. C., Asaftei, I. V., Chirita, P., **Birsa, M. L.**, "A new class of mesoionic 4-(1,3-dithiol-2-ylum)phenolates", *Rev. Chim. (Bucharest)*, **64**, 803-807 (2013).

31. Buhaceanu, R., Lungu, N. C., Forna, N. C., Asaftei, I. V., Chirita, P., **Birsa, M. L.**, "The influence of bromine substituent on optical properties of some 1,3-dithiolium derivatives", *Rev. Chim. (Bucharest)*, **64**, 960-964 (2013).
32. Bahrin, L. G., Lungu, N. C., Forna, N. C., Sandu, I., **Birsa, M. L.**, "Zwitterionic 3-(1,3-dithiol-2-ylidium)phenolates", *Rev. Chim. (Bucharest)*, **64 (11)**, 1343-1346 (2013).
33. Sarbu, L. G., Lungu, N. C., Forna, N. C., **Birsa, M. L.**, "Synthesis of 4-(2-hydroxyphenyl)-2-dialkylamino-1,3-dithiolium salts and corresponding mesoionic derivatives", *Rev. Chim. (Bucharest)*, **64 (12)**, 1404-1407 (2013).
34. Belei, D., Forna, N. C., Sandu, I., **Birsa, M. L.**, "Novel mesoionic 2-methyl-4-(1,3-dithiol-2-ylidium)phenolates", *Rev. Chim. (Bucharest)*, **65(1)**, 80-83 (2014).
35. Bahrin, L. G., Luca, A. C., **Birsa, M. L.**, "Synthesis of new flavanone-dithiocarbamic acid esters from 2,5-dihydroxyacetophenone", *Rev. Chim. (Bucharest)*, **65(2)**, 199-201 (2014).
36. Lungu, N. C., Bahrin, L. G., Asaftei, I. V., Forna, N. C., Sandu, I., **Birsa, M. L.**, "Phenacyl 3-methylpiperidinyll carbodithioates as building blocks for 1,3-dithiolium derivatives", *Rev. Chim. (Bucharest)*, **65(2)**, 181-184 (2014).
37. **Birsa, M. L.***, Sandu, I., Bahrin, L. G., "Synthesis of novel iodine-containing tricyclic flavanones", *Rev. Chim. (Bucharest)*, **65(2)**, 174-176 (2014).
38. Sarbu, L. G., Lungu, N. C., Asaftei, I. V., Sandu, I., **Birsa, M. L.**, "New evidence for the mesoionic character of 2-(1,3-Dithiol-2-ylidium)phenolates", *Rev. Chim. (Bucharest)*, **65(3)**, 325-327 (2014).
39. Bahrin, L. G., Craciun, B. F., Sandu, I., **Birsa, M. L.**, "Synthesis of novel 1,3-dithiol-2-ylidene derivatives from the corresponding mesoionic compound", *Rev. Chim. (Bucharest)*, **65(5)**, 525-528 (2014).
40. Sarbu, L. G., Bicu, E., Hopf, H., **Birsa, M. L.**, "[2.2]Paracyclophane substituted indolizines", *Rev. Chim. (Bucharest)*, **65(4)**, 398-400 (2014).
41. Gosav, S., **Birsa, M. L.**, "Multivariate study of flavonoids active against caco-2 colon carcinoma", *Rom. Rep. Phys.*, **66(2)**, 411-426 (2014).
42. Chiriță, P., Cătălina E. Bădică, C. E., Constantin, C. A., **Birsa, M. L.**, Matei, E., Baibarac, M., "Influence of 2,2'-bipyridine on oxidative dissolution of iron monosulfide (FeS)", *Surf. Interface Anal.*, **46**, 842-846 (2014).
43. Bahrin, L. G., Apostu, M. O., **Birsa, M. L.***, Stefan, M., "The antibacterial properties of sulfur containing flavonoids", *Bioorg. Med. Chem. Lett.*, **24**, 2315-2318 (2014).
44. Hopf, H., Jones, P. G., Nicolescu, A., Bicu, E., **Birsa, M. L.***, Belei, D., "A facile synthesis of Pechmann dyes", *Chem. Eur. J.*, **20**, 5565-5568 (2014).

45. Asaftei, I. V., Alexandroaei, M., **Birsa, M. L.**, Luca, A. C., Gradinaru, R., Lungu, N. C., "The action of a penicillinase with attenuated activity on a Penicillin G substrate", *Rev. Chim. (Bucharest)*, **65(8)**, 903-906 (2014).
46. Sarbu, L. G., Hopf, H., Jones, P. G., **Birsa, M. L.***, "Selenium halide-induced bridge formation in [2.2]paracyclophanes" *Beilstein J. Org. Chem.*, **10**, 2550-2555 (2014).
47. **Birsa, M. L.***, Sandu, A. V., Balan, A., "Synthesis of new 1,3-dithiolium derivatives from 4-hydroxyacetophenones", *Rev. Chim. (Bucharest)*, **65(12)**, 1435-1438 (2014).
48. Hrib, C. G., Sandu, I., Earar, K., **Birsa, M. L.**, "Synthesis of new 1,3-dithiolium derivatives from propiophenones", *Rev. Chim. (Bucharest)*, **65(12)**, 1453-1456 (2014).
49. Sarbu, L. G., Hopf, H., Gruenberg, J., **Birsa, M. L.**, "Reduction of *pseudo-geminal* bis(ethynyl) substituted [2.2]paracyclophanes", *Synlett*, **26**, 87-90 (2015).
50. Apostu, M. O., Sandu, I., **Birsa, M. L.***, Earar, K., "Synthesis of novel 4-aryl-5-methyl-1,3-dithiolium derivatives", *Rev. Chim. (Bucharest)*, **66(1)**, 39-42 (2015).
51. Asaftei, I. V., Sandu, I., **Birsa, M. L.**, Earar, K., "Conversion of industrial feedstock mainly with butanes and butenes over B-HZSM-5 and Zn-HZSM-5 modified catalysts", *Rev. Chim. (Bucharest)*, **66(3)**, 336-341 (2015).
52. Maftei, D., Asaftei, I. V., Sandu, I., Manea, L. R., **Birsa, M. L.**, Earar, K., "Conversion of industrial feedstock mainly with butanes and butenes over HZSM-5 and Zn/HZSM-5 (nitrate) catalysts", *Rev. Chim. (Bucharest)*, **66(5)**, 673-680 (2015).
53. Asaftei, I. V., Earar, K., **Birsa, M. L.**, Sandu, I. G., Lungu, N. C., Sandu, I., "Conversion of light hydrocarbons with butanes and butenes from petroleum refining processes over Zn-HZSM-5 and ZnO/HZSM-5 catalysts", *Rev. Chim. (Bucharest)*, **66(7)**, 963-971 (2015).
54. Chirita, P., Constantin, C. A., Badica, C. E., Duinea, M. I., **Birsa, M. L.**, Matei, E., Baltog, I., "Inhibition of troilite (FeS) oxidative dissolution in air-saturated acidic solutions by *O*-ethyl-*S*-2-(2-hydroxy-3,5-diiodophenyl)-2-oxoethylxantogenate", *Materials Chemistry and Physics*, **157**, 101-107 (2015).
55. Sarbu, L. G., Bahrin, L. G., Jones, P. G., **Birsa, M. L.**, Hopf, H., "[2.2]Paracyclophane derivatives containing tetrathiafulvalene moieties", *Beilstein J. Org. Chem.*, **11**, 1917-1921 (2015).
56. Dirtu, D., Asaftei, I. V., Chirita, P., Sandu, I., **Birsa, M. L.**, Earar, K., Sarbu, L. G., "Synthesis of 1,3-dithiol-2-ylum salts by functionalization of some toluenols", *Rev. Chim. (Bucharest)*, **66(12)**, 2028-2030 (2015).
57. Bahrin, L. G., Jones, P. G., Hopf, H., Earar, K., **Birsa, M. L.***, "Synthesis of new iodine containing 1,3-dithiol-2-ylum salts", *Rev. Chim. (Bucharest)*, **67(1)**, 61-63 (2016).
58. Bahrin, L. G., Jones, P. G., Hopf, H., Poroch, V., **Birsa, M. L.***, "Synthesis of fluorine containing 1,3-dithiol-2-ylum salts", *Rev. Chim. (Bucharest)*, **67(3)**, 481-484 (2016).

59. Babii, C., Bahrin, L. G., Neagu, A., Gostin, I., Mihasan, M., **Birsa, M. L.***, Stefan, M., "Antibacterial activity and proposed action mechanism of a new class of synthesized sulfur containing flavonoids", *J. Appl. Microbiology*, **120**, 630-637 (2016).
60. Dirtu, D., Lungu, N. C., Chirita, P., Sandu, I. G., **Birsa, M. L.**, Earar, K., Sarbu, L. G., "Synthesis of novel 4-(3,5-dibromo-2-hydroxyphenyl)-5-methyl-1,3-dithiol-2-ylidene derivatives", *Rev. Chim. (Bucharest)*, **67(3)**, 534-537 (2016).
61. Pavel, S., Hopf, H., Jones, P. G., Lupu, V. V., **Birsa, M. L.***, "Synthesis and structural characterization of some 1,2-bis[(1*H*-1,2,3-triazol-1-yl)methylene]benzene derivatives", *Rev. Chim. (Bucharest)*, **67**, 683-686 (2016).
62. Asaftei, I. V., Earar, K., Lungu, N. C., **Birsa, M. L.**, Ignat, M., Plesu, V., Sandu, I. G., "Comparative Study Between Zn – Cu- HZSM-5 and Zn-HZSM-5 (Acetate) Catalysts in Conversion of C4 – C4 = Technical Fraction", *Rev. Chim. (Bucharest)*, **67**, 734-740 (2016).
63. Asaftei, I. V., Sandu, I. G., Lungu, N. C., **Birsa, M. L.**, Sarbu, L. G., Ignat, M., "Conversion of Butane-Butylene Mixtures over B(Al)-HZSM-5 Catalyst Prepared by Impregnation and over ZnO/HZSM-5 co-Catalyst Prepared by Mechanical Mixing", *Rev. Chim. (Bucharest)*, **67**, 847-853 (2016).
64. Bahrin, L. G., Hopf, H., Jones, P. G., Sarbu, L. G., Babii, C., Mihai, A. C., Stefan, M., **Birsa, M. L.***, "Antibacterial structure–activity relationship studies of several tricyclic sulfur-containing flavonoids", *Beilstein J. Org. Chem.*, **12**, 1065-1071 (2016).
65. Bahrin, L. G., Sarbu, L. G., Hopf, H., Jones, P. G., Babii, C., Stefan, M., **Birsa, M. L.***, "The influence of halogen substituents on the biological properties of sulfur-containing flavonoids", *Bioorg. Med. Chem.*, **24**, 3166-3173 (2016).
66. Asaftei, I. V., Lungu, N. C., **Birsa, M. L.**, Sarbu, L. G., Ignat, M., Sandu, I. G., "Conversion of light hydrocarbons from petroleum refining processes over Zn-HZSM-5 (nitrate) and Zn-HZSM-5 (acetate) catalyst; A comparative study", *Rev. Chim. (Bucharest)*, **67**, 1523-1528 (2016).
67. Toader, E., **Bahrin, L. G.**, **Sandu, I.**, **Birsa, M. L.***, **Rezus, C.**, *Rev. Chim. (Bucharest)*, **67**, 1394-1396 (2016).
68. Pavel, S., Hopf, H., Jones, P. G., Asaftei, I. V., Sarbu, L. G., **Birsa, M. L.**, "Click reactions with *pseudo-geminal* bis(azido-methylene)[2.2]paracyclophane", *Monat. Chem.*, **147**, 2179-2183 (2016).
69. Gosav, S., Paduraru, N., Maftei, D., **Birsa, M. L.**, Praisler, M., "Quantum chemical study of a derivative of 3-substituted dithiocarbamic flavanone", *Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy*, **172**, 115-125 (2017).
70. Asaftei, I. V., Sandu, I., Lungu, N. C., **Birsa, M. L.**, Sarbu, L. G., "Conversion of light hydrocarbons from petroleum refining processes over Ni-HZSM-5 catalyst", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).

71. Asaftei, I. V., Lungu, N. C., **Birsa, M. L.**, Sandu, I., Sarbu, L. G., Ignat, M., "*n*-Heptane conversion over Ni-HZSM-5 zeolite catalysts", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).
72. Matei, M., Chirita, P., Sarbu, L. G., **Birsa, M. L.**, "New 4-(4-hydroxyaryl)-5-methyl-1,3-dithiol-2-ylidene derivatives", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).
73. Sarbu, L. G., Asaftei, I. V., Chirita, P., **Birsa, M. L.**, "Synthesis of 4-(3-bromo-2-hydroxy-5-methylphenyl)-1,3-dithiol-2-ylidene derivatives", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).
74. Asaftei, I. V., Lungu, N. C., **Birsa, M. L.**, Sandu, I., Sarbu, L. G., Ignat, M., "Performance of Ag-HZSM-5 zeolite catalysts in *n*-heptane conversion", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).
75. Asaftei, I. V., Lungu, N. C., **Birsa, M. L.**, Sandu, I., Sarbu, L. G., Ignat, M., "Performance of Zn-HZSM-5 zeolite catalysts in *n*-heptane conversion", *Rev. Chim. (Bucharest)*, **67**, 000 (2016).

D. Articles published in national journals

76. Seliger, H.; Happ, E.; Cascaval, A.; **Birsa, M. L.**, "Alkyl-2-hydroxyaryl ketones. XXX. ", *An. St. Univ. "Al.I. Cuza" Iasi*, (1997) **V**, 111-122.
77. Seliger, H.; Happ, E.; Cascaval, A.; **Birsa, M. L.**; Novitschi, G., "Synthesis of some aminated thiazoles", *An. St. Univ. "Al.I. Cuza" Iasi*, (1997) **V**, 123-128.
78. Seliger, H.; Cascaval, A.; **Birsa, M. L.**, "A facile one-step synthesis of some new *bis*-Mannich-Werner bases of polysubstituted chroman-4-ones", *An. St. Univ. "Al.I. Cuza" Iasi*, (1997) **V**, 129-134.
79. **Birsa, M. L.**, "Dithiolium derivatives. I.", *An. St. Univ. "Al.I. Cuza" Iasi*, (1998) **VI**, 57-64.
80. **Birsa, M. L.**, "Dithiolium derivatives. II.", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (1999) **VII**, 341-347.
81. **Birsa, M. L.**, "Dithiolium derivatives. III.", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (1999) **VII**, 349-354.
82. **Birsa, M. L.**, "Dithiolium derivatives. IV.", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (2000) **VIII**, 71-74.
83. **Birsa, M. L.**, "Synthesis of some new 4-(2'-hydroxyaryl)-5-methyl-2- (*N,N*-dialkylamino)-thiazoles", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (2000) **VIII**, 325-328.
84. **Birsa, M. L.**, "Dithiolium derivatives. V.", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (2000) **VIII**, 329-334.
85. **Birsa, M. L.**; Tiron, R.; Ignat, L, "Dithiolium derivatives. VI.", *An. Stiint. Univ. "Al.I. Cuza" Iasi*, (2000) **VIII**, 335-340.
86. Tietze, L. F., **Birsa, M. L.**, Cascaval, A., *Anal. Stiint. Univ. Al.I. Cuza Iasi*, (2005) **13**, 91-98.
87. Ciobanu, A.S., Goanta, M., Birsa, A., Asaftei, I.V., and **Birsa, M. L.**, "Synthesis of Mesoionic 4-Methyl-2-(1,3-dithiol-2-ylidene-4-yl)phenolates", *Anal. Stiint. Univ. Al.I. Cuza Iasi*, (2008) **16**, 61-75.
88. Bacu, E., Vornicu, N., Belei, D., **Birsa, M. L.**, „Cercetari privind activitatea antifungica a unor saruri de *N*-fenacil-2-carbaldoxim-piridiniu” *Conservarea si Restaurarea Patrimoniului Cultural*, (2008) **VIII**, 6-14.

89. Bacu, E., Vornicu, N., Belei, D., **Birsa, M. L.**, „Activitatea antibacteriana a trei saruri de *N*-fenacil- $Y_{(p)}$ -2-carbaldoxim-piridiniu”, *Conservarea si Restaurarea Patrimoniului Cultural*, (2008) **VIII**, 92-99.
90. Asaftei, I. V., Bîlbă, N., **Bîrsă, M. L.**, Luchian, C., „Sorption Properties of MCM-41 Mesoporous Materials”, *Anal. Stiint. Univ. Al.I. Cuza Iasi*, (2008) **16**, 47-60.
91. Asaftei, I. V., Iofcea, Ghe., **Bîrsă, M. L.**, Bîlbă, N., „Aromatisation of the Technical C_4/C_4^- Fraction Over Zn-MFI Catalysts”, *Acta Chem. Iasi*, (2009) **17**, 5-34.
92. Goanta, M., Ciobanu, A.S., Birsa, A., Asaftei, I.V., and **Birsa, M. L.**, “Synthesis of 4-(3-Bromo-2-Hydroxy-5-Methylphenyl)-2-Dialkylamino-1,3-Dithiolium Chlorides”, *Acta Chem. Iasi*, (2009) **17**, 35-48.
93. Birsa, A., Ignat, L., Hopf, H., **Birsa, M. L.**,” [2.2]Paracyclophanes: The Interaction of *Pseudo-Geminal* Bispropargylic Alcohols with Sulfur Halides”, *Acta Chem. Iasi*, (2009) **17**, 187-196.
94. Belei, D., Bicu, E., **Birsa, M. L.**,” 1,3-Dipolar Cycloaddition Reactions of *N*-Acetylazido-2-chlorophenothiazine”, *Acta Chem. Iasi*, (2009) **17**, 197-207.
95. Sarbu, L. G., Birsa, A., Ignat, L., Hopf, H., **Birsa, M. L.**,” [2.2]Paracyclophanes: The Interaction of *Pseudo-Geminal* Bisacetylene with Electrophiles”, *Acta Chem. Iasi*, (2010) **18**, 69-76.
96. Sarbu, L. G., Birsa, A., Hopf, H., **Birsa, M. L.**, “Heteroatom Bridged [2.2]Paracyclophanes As Eneidyne Analogs”, *Acta Chem. Iasi*, (2010) **18**, 186.
97. Abuhaie, C. M., Belei, D., **Birsa, M. L.**, Bîcu, E., "Nouveaux composes de type pyridino- et indolizino-phenothiazines a potentialité pharmacologique", *Acta Chem. Iasi*, (2010) **18**, 129.
98. Gosav, S., **Birsa, M. L.**, "Exploratory analysis on some flavonoids with anti-invasive activity using molecular descriptors and principal component analysis", *Acta Chem. Iasi*, (2010) **18**, 150-151.
99. Gosav, S., Praisler, M., **Birsa, M. L.**, "Exploratory analysis on some flavonoids with anti-invasive activity using molecular descriptors and cluster analysis", *Annals of "Dunarea de Jos" University of Galati, Mathematics, physics, theoretical mechanics*, (2010), **33**, 302-307.
100. Gosav, S., **Birsa, M. L.**, "Stepwise discriminant analysis applied in QSAR modeling of flavonoids with anti-invasive activity", *Annals of "Dunarea de Jos" University of Galati, Mathematics, physics, theoretical mechanics*, (2010), **33**, 59-65.
101. Sarbu, L. G., **Birsa, M. L.**, “Synthesis of Iodine Containing Mesoionic 2-(1,3-Dithiolium)phenolates”, *Acta Chem. Iasi*, (2011) **19**, 125-135.
102. Holban, M., Aparaschivei, R., Sunel, V., Popa, M., **Birsa, M. L.**, Birsa, A., " Synthesis and haracterization of microparticles encapsulating tuberculostatic agents" *Annals of "Dunarea de Jos" University of Galati, Mathematics, physics, theoretical mechanics*, (2011), **34**, 87.

E. Patents

1. Gulea A., Țapcov V., **Birsa, M. L.**, Gînju D., Jalbă A., Graur V., Julea F., "Inhibitor al leucemiei mieloide umane în bază de {bis[2-(3,5-dibromo-2-hidroxifenil)-2-oxoetil-piperidin-1-carboditioato(1-)O,O']cupru}", Brevet de invenție MD Nr 4190, 2012. Publ BOPI 12/2012. P. 21-22.

F. Research grants

Research grant of the "Alexander von Humboldt" Foundation, RUM-1113505

National research grants: 3

1. Contract CEEEX modul II, ET 5902 / 18.09.2006
2. Contract PN II – IDEI cod 2095 / 2008
3. Contract PN II – PARTENERIATE nr 51/2011

Member of the research teams: 9

7 grants Tip A:

1. 1998 - CNSU 33/91
2. 1999 - CNCSIS 32/184
3. 2001 – CNCSIS 11/948;
4. 2002 - CNCSIS 55/304;
5. 2003 - CNCSIS 122/304;
6. 2005 - CNCSIS 5/1483;
7. 2006 - CNCSIS 7/1483.

1 grant CEEEX, Modul I CERES 2CEX06-11-105 / 25.10.2006

1 international grant BILATERAL RO-FR, program CAPACITATI, Modul III, Parteneriat IFA-CEA Franta