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Date of birth: August 9, 1970
Place of birth: Adjud - Vrancea
Permanent address: Iasi, Romania
Education:
- 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, 2006-2019.

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

Publications:

- 41 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).
  - 34 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).
- 127 scientific papers.
- 1 international patent and 25 contributions to academic conferences.
- H-index: 25; 1101 - citations

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

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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 – Exerciţii şi Probleme*, Pim, Iaşi, 2003, 246 pp.
2. 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 65-310. DOI: 10.1055/sos-SD-018-00070
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. DOI:10.1002/9780470061138
4. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2004*, Knipe, A. C., Ed., John Wiley & Sons, Chichester, 2008, pp. 331-342. DOI:10.1002/9780470066591
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. DOI: 10.1002/9780470066614
6. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2005*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2008, pp. 277-285. DOI: 10.1002/9780470066614
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. DOI: 10.1002/9780470669587
8. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2006*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2010, 307-316. DOI: 10.1002/9780470669587

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. DOI: 10.1002/9780470975800
10. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2007*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 265-274. DOI: 10.1002/9780470975800
11. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2008*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 253-266. DOI: 10.1002/9780470979525
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. DOI: 10.1002/9780470979525
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. DOI: 10.1002/9781119972471
14. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2009*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2011, 333-344. DOI: 10.1002/9781119972471
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. DOI: 10.1002/9781119941910
16. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2010*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2012, 285-297. DOI: 10.1002/9781119941910
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. DOI: 10.1002/9781118560273
18. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2011*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2014, 361-370. DOI: 10.1002/9781118560273
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. DOI: 10.1002/9781118930786
20. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2012*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2015, 325-331. DOI: 10.1002/9781118930786
21. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2013*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2016, 361-381. DOI: 10.1002/9781118707838

22. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2013*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2016, 383-391. DOI: 10.1002/9781118707838
23. **Birsa, M. L.**, *Capitole speciale de chimie organică*, Ed. Stef, Iasi, 2016, 131 pag.
24. **Birsa, M. L.**, *Săruri de 1,3-ditioliu*, Ed. Stef, Iasi, 2016, 110 pag.
25. Sarbu, L. G., **Birsa, M. L.**, *Introducere în chimia organică*, Ed. Stef, Iasi, 2016, 263 pag.
26. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2014*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2018, 399-421. DOI: 10.1002/9781118941829
27. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2014*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2018, 423-434. DOI: 10.1002/9781118941829
28. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2015*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2019, 403-418. DOI: 10.1002/9781119125082
29. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2015*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2019, 419-428. DOI: 10.1002/9781119125082
30. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2016*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2020, 423-448. DOI: 10.1002/9781119288657
31. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2016*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2020, 449-462. DOI: 10.1002/9781119288657
32. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2017*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2020, 343-364. DOI: 10.1002/9781119426295
33. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2017*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2020, 365-376. DOI: 10.1002/9781119426295
34. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2018*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2021, 277-288. DOI: 10.1002/9781119531975
35. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2018*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2021, 289-295. DOI: 10.1002/9781119531975
36. Sarbu, L. G., **Birsa, M. L.**, *Metode de investigare a mecanismelor de reacţie*, Ed. Stef, Iasi, 2021, 324 pag. ISBN 978-606-028-707-0
37. Sarbu, L. G., **Birsa, M. L.**, *Medicamente de sinteză*, Ed. Stef, Iasi, 2021, 245 pag. ISBN 978-606-028-708-7

38. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2019*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2022, 321-332.
39. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2019*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2022, 333-344.
40. **Birsa**, **M. L.**, *Carbanions and Electrophilic Aliphatic Substitution* in *Organic Reaction Mechanisms 2020*, Knipe, A. C. Ed., John Wiley and Sons, Chichester, 2022, in print.
41. **Birsa**, **M. L.**, *Elimination Reactions* in *Organic Reaction Mechanisms 2020*, Knipe, A. C. Ed., John Wiley & Sons, Chichester, 2022, in print.

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-ylium-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-ylium 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-ylium)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-ylium)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-ylium)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-methylpiperidinyl 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-ylium)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., Gruenenberg, 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). WOS:000352756300010
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). WOS:000355126000016
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). WOS:000359179900009

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E. *Patents*

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