

CURRICULUM VITAE

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Education:

2009 PhD in Theoretical Chemistry, Department of Chemistry, University of Sofia, Sofia, Bulgaria

PhD thesis: *Mechanism and Reactivity of Amides in the Alkaline Hydrolysis Reaction*

Thesis advised by prof. Boris Galabov and prof. Sonia Ilieva

1995 - 2001 M.Sc. in Chemistry, Department of Chemistry, University of Sofia, Sofia, Bulgaria

M. Sc. thesis: *Investigation of infrared intensities: Effective bond charges of C-H bonds in series substituted acetylenes.*

Thesis advised by prof. B. Galabov.

1990 - 1995 High School of European Languages "St. Konstantin Kiril Philosopher" Ruse, Bulgaria.

Scholarships and Awards:

2011-2012 Institute des Sciences Moléculaires de Marseille (iSm2), UMR-CNRS 7313, Faculté des Sciences, Marseille, France - постдокторант

2010 Award for High Scientific Achievements - Union of Scientists in Bulgaria for PhD thesis "Mechanism and Reactivity of Amides in the Alkaline Hydrolysis Reaction"

2007 Second Summer School for Newly Appointed University Chemistry Teaching Staff, Malta.

2002 Laboratory of Theoretical Chemistry, E.N.S.C.R., Rennes, France: 2002, Socrates-Erasmus Studentship.

Professional Experience:

2010 – Senior Assistant Professor, University of Sofia, Faculty of Chemistry, Department of Applied Organic Chemistry.

2005 – 2010 Assistant Professor, University of Sofia, Faculty of Chemistry, Department of Applied Organic Chemistry.

2004 – 2005 Junior expert – Distance Education, University of Sofia.

Spoken Languages:

Bulgarian – mother tongue

English – fluent

Russian – good

German – reading

Membership in Scientific Organizations:

Union of Chemists in Bulgaria

Appendix 1: List of publications

1. **D. Cheshmedzhieva**, S. Ilieva, B. Galabov, “Computational study of alkaline hydrolysis of acetanilide”, J Mol Struct (THEOCHEM), 681, 2004, 105-112. (IF=1.007)
2. B. Galabov, **D. Cheshmedzhieva**, S. Ilieva, B. Hadjieva, “Computational study of N-phenylacetamides in alkali hydrolysis reaction”, J Phys Chem A, 108, 2004, 11457-11462. (IF= 2.639)
3. M. Bogdanov, I. Todorov, P. Manolova, **D. Cheshmedzhieva**, M. Palamareva, “Configuration and conformational equilibrium of (\pm)-trans-1-oxo-3-thiophen-2-yl-isochroman-4-carboxylic acid methyl ester”, Tetrahedron Lett., 45, 2004, 8383-8386. (IF=2.193)
4. B.Hadjieva, S. Ilieva, **D. Cheshmedzhieva**, B. Galabov, “Conformation of some biologically active aromatic ureas”, Spectrochimica Acta Part A, 61 (7), 2005, 1321-1326. (IF= 2.536)
5. **D. Cheshmedzhieva**, S. Ilieva, B. Hadjieva, B. Galabov, “The Mechanism of alkaline Hydrolysis of Amides. A Comparative Computational and Experimental Study of the Hydrolysis of N-Methylacetamide, N-Methylbenzamide and Acetanilide”, J Phys Org Chem, 22, 2009, 619. (IF= 1.336)

6. **D. Cheshmedzhieva**, S. Ilieva, B. Hadjieva, T. Trayanova, B. Galabov “Reactivity of Acetanilides in the Alkaline Hydrolysis Reaction: Theory vs. Experiment”, *Mol Phys*, 107, 2009, 1187. (IF=1.634)
7. **D. Cheshmedzhieva**, S. Ilieva, B. Galabov “Computational evaluation of σ_I and σ_R substituent constants”, *J Mol Struct*, 976 (1-3) 2010, 427. IF=1.599)
8. S. Ilieva, **D. Cheshmedzhieva**, D. Tasheva “The origin of diastereoselectivity in the Michael addition reaction: a computational study of the interaction between CH-acidic Schiff base and α,β -unsaturated ketones”, *Tetrahedron*, 66, 2010, 5168–5172. (IF= **3.011**)
9. D. Nalbantova, **D. Cheshmedzhieva**, S. Ilieva, B. Hadjieva, B. Galabov “Reactivity of phenyl N-phenylcarbamates in the alkaline hydrolysis reaction” *J Phys Org Chem* 24 , 2011, 1166. (IF=1.963)
10. **D. Cheshmedzhieva**, P. Ivanova, S. Stoyanov, D. Tasheva, I. Ivanov, S. Ilieva “Absorption and fluorescence properties of novel 1,8-naphthalimide hydrazones for enzyme activity localization” *Phys Chem Chem Phys* 13, 2011, 18530. (IF= 4.123)
11. **D. Cheshmedzhieva**, V. Nikolova, B. Hadjieva, S. Ilieva “Rationalizing IR intensities in terms of electronic parameters” *J Mol Struct*, 1009, 2012, 69-73. (IF= 1.54)
12. V. Nikolova, **D. Cheshmedzhieva**, S. Ilieva, B. Galabov “The nature of intramolecular interactions determining the σ^- constants for aromatic systems”, *J Mol Struct*, 1023, 2012, 31-36. (IF= 1.54)
13. **D. Cheshmedzhieva**, I. Angelova, S. Ilieva, G.S. Georgiev, B. Galabov, “Initiation of ring-opening polymerization of lactide: The effect of metal alkoxide catalyst“, *Computational and Theoretical Chemistry*, 995, 2012, 8-16. (IF= **1.549 for 2016**)
14. I. Ivanov, M.B. Dimitrova, **D. Cheshmedzhieva**, D. Tasheva, V. Lozanov, S. Ilieva “Synthesis, structural analysis and application of a series of solid-state fluorochromes—aryl hydrazones of 4-hydrazino-N-hexyl-1,8-naphthalimide”, *Tetrahedron*, 69, 2013, 712-721. (IF=2.817)
15. A. A. Vasilev, T. G. Deligeorgiev, **D. Cheshmedzhieva**, S. Ilieva, O. D. Castaño, S. E. Angelova, “Assemble new merocyanine chromophores with 1,8-

naphthalimide or 1,8-naphthoylene-1',2'-benzimidazole core“ Aust J Chem, 2015, 68(9) 1399-1408 (IF=1.427)

16. A Quintard, **D. Cheshmedzhevia**, M. del Mar Duque, A. Gaudel-Siri, J.-V. Naubron, Y. Génisson, J.-C. Plaquevent, X. Bugaut, J. Rodriguez, T. Constantieux, “Organocatalyzed enantioselective Michael addition of β -ketoamides to α,β -unsaturated carbonyls: a combined experimental, spectroscopic and theoretical mechanistic study“, Chem.–Eur J, 2015, 21, 778. (IF= 5.317)

17. M. Dangalov; S. Yordanova; M. Stoyanova; **D. Cheshmedzhieva**; P. Petrov; S. Stoyanov“3,4-diamino naphthalimides and their respective imidazoles - synthesis, spectroscopic and theoretical investigation“ J Mol Struct, 1125, 2016, 705-713. (IF= 1.753)

18. V. Nikolova, **D. Cheshmedzhieva**, S. Ilieva, B. Galabov, Hydrogen bonding reactivities for atomic sites in the nucleobases, Bul Chem Commun, 49 (D):8 (IF=0.238)

19. B. Galabov, V. Nikolova, **D. Cheshmedzhieva**, D. Hadjieva, B. Schaefer, H.F, Hyperconjugative effects in pi-hydrogen bonding: Theory and experiment. J Comp Chem (IF=3.229)

20. T. Dudev, **D. Cheshmedzhieva**, L. Doudeva, Competition between abiogenic Al^{3+} and native Mg^{2+} , Fe^{2+} and Zn^{2+} ions in protein binding sites: implications for aluminum toxicity, J Mol Model (2018) 24: 55. (IF=1.425)

21. **D. Cheshmedzhieva**, N. Toshev, M. Gerova, O. Petrov, T. Dudev, Hydroxamic acid derivatives as histone deacetylase inhibitors: a DFT study of their tautomerism and metal affinity/selectivity, J. Mol. Model. (2018) 24: 114 (IF=1.425)

22. **D. Cheshmedzhieva**, N. Toshev, M. Gerova, O. Petrov, T. Dudev, Sulfur and selenium derivatives of suberoyl anilide hydroxamic acid (SAHA) as a plausible HDAC inhibitors: a DFT study of their tautomerism and metal affinity/selectivity, J Bulgarian Chemical Communications – accepted for publication.

Appendix 2: Conference Contributions:

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- • Scientific session in chemistry for students and young researchers – 18-20 May, 2004, Sofia – oral presentation.

- • National conference on electronic learning in Higher education - 3-5 June, 2004, Kiten, Bulgaria, organizing committee – oral presentation.
- • Second Humboldt conference on computational chemistry- Nessebar, Bulgaria, 1-5 September, 2004 – poster presentation.
- • Scientific session in chemistry for students and young researchers – 18-20 May, 2005, Sofia – oral presentation
- • (Q)SAR Training Course - Sofia, Bulgaria 19-21 October 2005 organizing committee.
- • Third Humboldt conference on computational chemistry- Varna, Bulgaria, 24-28 June 2006 – poster presentation
- • II National conference on electronic learning in Higher education - 14-17, September 2006, Kiten, Bulgaria organizing committee.
- • VI National conference on chemistry for students and young researchers – 16-18, May, 2007, Sofia – oral presentation
- • Second Summer School for Newly Appointed University Chemistry Teaching, Staff, Malta, 12-16 June 2007.
- • 7th chemistry conference, 10-11 October 2008, Plovdiv – poster presentation.
- • 2-nd INTERNATIONAL SYMPOSIUM ON ORGANIC CHEMISTRY, 13-16, December 2008, Sofia, Bulgaria – poster presentation
- • Advanced *science communication* workshop in Dubrovnik 6-8 April 2009.
- • 13th International Congress of Computational Chemistry, 22-27 June, 2009 Helsinki, Finland – poster presentation.
- • Fourth Humboldt conference on computational chemistry- Varna, Bulgaria, 12-15 July 2010 – poster presentation.
- • 30th European Congress of molecular Spectroscopy 29.08-03.09. 2010, Firenze, Italy – poster presentation.
- 14th International Density Functional Theory Conference, Athens, Greece, August 29-September 02, 2011 – poster presentation.
- 7e Rencontre de Chimie Organique de Marseille, Marseille, France, 14.June-15. June, 2012 “Theoretical investigations on the mechanism of the organocatalyzed Michael addition with β -ketoamides” – oral presentation
- XIII^e Rencontre des Chimistes Théoriciens Francophones, Marseille – Campus St-Charles – 1^{er}-5 juillet 2012 – poster presentation.

- Conference “Advanced Functional Materials” 5-8 September, 2012, Riviera, Bulgaria – poster presentation.
- Modeling Interactions in Biomecules VIII 3-8 September, 2017, Pilzen, Czech Republic, - oral presentation, poster presentation.

Appendix 3: List of Projects:

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- Socrates-Minerva #90133-CP-1-2001-1-UK-Minerva-M “STAR Science (Science Teachers Associated e-Learning Resources)”, 2001-2004.
 - “Electrostatic forces in chemical reactions. Reactivity of carbonyl compounds.” ФНИ № ВУХ 04/05, 2005-2008.
 - “The Qualitative description of chemical reactivity. Application in Organic Chemistry and Material Science” ФНИ 2009-2012.
 - Национален център за нови материали - UNION –DO-02-82/2008.
 - FP7, regpot 1, BeyondEverest, 2011-2013 - Development of the research potential of the Faculty of Chemistry in the area of advanced functional materials for successful participation in world-class research at EU level.
 - Réactions Enantiosélectives Organocatalysées à partir de Cétoamides, Член, Agence Nationale de la Recherche, ANR-11-BS07-0014; 2011-2014.
 - „Разработване и провеждане на електронни форми на дистанционно обучение във Факултет по химия и фармация при СУ „Св. Климент Охридски“ BG051PO001-4.3.04-0033, 2013-2015.
 - „Механизми, катализ и реактивоспособност при органични реакции”, ФНИ № ДН 09/4/15.12.2016, 2016-2019.
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