

I.2 – Dosar cu lucrări științifice

Lista de lucrări

Dr. Socaci A. Crina-Anca

Nume anterior: Cismaș

a. Teza de doctorat:

Crina Socaci (fosta Cismaș), "Synthesis and Structural Analysis of Some New Derivatives with Saturated Six-membered Heterocycles and the Synthesis of Some New Amphiphilic Purine Derivatives", 2004, coordonator Prof. Dr. Ion Grosu, Universitatea "Babeș-Bolyai", Cluj-Napoca
Abstractul tezei se găsește la: <http://www.chem.ubbcluj.ro/~organica/abstracturi/crina.pdf>

b. Cărți:

"Coupling reactions in organic chemistry" E. Bogdan, N. Hadade, C. Socaci, A. Terec, Ed. Presa Universitara Clujana, isbn 978-973-595-584-7, 2013.

Capitol de carte electronica:

"N-(Trimethylsilyl)imidazole", T. Gimisis, C. Cismaș – capitol in "electronic Encyclopedia for Reagents in Organic Synthesis", Copyright © 2007 John Wiley & Sons, Ltd, <https://onlinelibrary.wiley.com/doi/10.1002/9780470842898.rt307.pub2>, Data afisarii online: 15 Martie, 2007 (13 pagini)

c. Articole/lucrări publicate (selecție):

1. D. Cosma, A. Urda, T. Radu, M.C.Rosu, M. Mihet, C. Socaci*, *Evaluation of the Photocatalytic Properties of Copper Oxides/Graphene/TiO₂ Nanoparticles Composites Molecules* 2022, 27(18), 5803.
2. A. Urda, T. Radu, C. Socaci*, V. Floare-Avram, D. Cosma, M.C. Rosu, M. Coros, S. Pruneanu, F. Pogacean, *Evaluation of N-doped graphene role in the visible-light driven*

photodegradation of sulfamethoxazole by a TiO₂-silver-graphene composite, J. Photochem. Photobiol. A 2022, 425, 113701.

3. M. Suci, S. Porav, T. Radu, M.C. Rosu, M.D. Lazar, S. Macavei, C. Socaci*, *Photodynamic effect of light emitting diodes on E. coli and human skin cells induced by a graphene-based ternary composite*, J. Photochem. Photobiol. B 2021, 223, Article Nr. 112298.

4. M. Coros, C. Socaci*, S. Pruneanu, F. Pogacean, M.C. Rosu, A. Turza, L. Magerusan, *Thermally reduced graphene oxide as green and easily available adsorbent for Sunset yellow decontamination*, Environmental Research 2020, 182, Nr. 109047.

5. I.G. Grosu, L. Pop, M. Miclaus, N.D. Hadade, A. Terec, A. Bende, C. Socaci, M. Barboiu, I. Grosu, *Halogen Bonds (N---I) at Work: Supramolecular Catemeric Architectures of 2,7-Dipyridylfluorene with ortho-, meta-, or para-Diiodotetrafluorobenzene Isomers* Crystal Growth & Design 2020, 20, 3429-3441.

6. A.P. Crisan, A.M. Craciun, I. Mihalache, M. Focsan, C. Socaci, C.D. Maniu, S. Astilean, L.M. Veca, A. Terec, *Surface passivation of carbon nanoparticles with 1,2-phenylenediamine towards photoluminescent carbon dots*, Revue Roumaine de Chimie 2020, 65, 559-566.

7. C.M. Muntean, N.E. Dina, T.L. Biter, I. Bratu, M. Coros, C. Socaci, A. Coste, *Surface dynamics of genomic DNAs upon lowering the pH, in the presence of graphene/AgNPs-based SERS detection platform*, Journal of Molecular Modeling 2020, 26, 211.

8. M. Coros, F. Pogacean, L. Magerusan, C. Socaci, S. Pruneanu *A brief overview on synthesis and applications of graphene and graphene-based nanomaterials*, Frontiers of Materials Science 2019, 13, 23-32.

9. M. Moldovan, D. Prodan, C. Sarosi, R. Carpa, C. Socaci, M.C. Rosu, S. Pruneanu, *Synthesis, morpho-structural properties and antibacterial effect of silicate-based composites containing graphene oxide/hydroxyapatite*, Mat. Chem. Phys. 2018, 217, 48-53.

10. L. Magerusan, F. Pogacean, M. Coros, C. Socaci, S. Pruneanu, C. Leostean, I.O. Pana, *Green methodology for the preparation of chitosan/graphene nanomaterial through electrochemical exfoliation and its applicability in Sunset Yellow detection*, Electrochimica Acta 2018, 283, 578-589.

11. F. Pogacean, M. Coros, L. Magerusan, M.C. Rosu, C. Socaci, S. Gergely, R.-I.S. vanStaden, M. Moldovan, C. Sarosi, S. Pruneanu, *Sensitive detection of hydroquinone using exfoliated graphene-Au/glassy carbon modified electrode*, Nanotechnology 2018, 29 (9), 095501.
12. M. Coros, F. Pogacean, L. Magerusan, M.C. Rosu, A.S. Porav, C. Socaci, A. Bende, R.I. Stefan-van Staden, S. Pruneanu, *Graphene-porphyrin composite synthesis through graphite exfoliation: The electrochemical sensing of catechol*, Sens. Actuat. B: Chemical 2018, 256, 665-673.
13. M.C. Rosu, M. Coros, F. Pogacean, L. Magerusan, C. Socaci, A. Turza, S. Pruneanu *Azo dyes degradation using TiO₂-Pt/graphene oxide and TiO₂-Pt/reduced graphene oxide photocatalysts under UV and natural sunlight irradiation*, Solid State Sciences 2017, 70, 13-20.
14. D. Toloman, A. Popa, M. Stan, C. Socaci, A.R. Biris, G. Katona, F. Tudorache, I. Petrila, F. Iacomi, *Reduced graphene oxide decorated with Fe doped SnO₂ nanoparticles for humidity sensor*, Applied Surface Science 2017, 402, 410-417.
15. M.C. Rosu, E. Pall, C. Socaci, L. Magerusan, F. Pogacean, M. Coros, A. Turza, S. Pruneanu, *Cytotoxicity of methylcellulose-based films containing graphenes and curcumin on human lung fibroblasts*, Process Biochemistry 2017, 52, 243-249.
16. M.C. Rosu, M. Coros, F. Pogacean, L. Magerusan, C. Socaci, A. Turza, S. Pruneanu, *Electrochemical platform based on nitrogen-doped graphene/chitosan nanocomposite for selective Pb²⁺ detection* Nanotechnology 2017, 28, 114001.L.
17. F. Pogacean, A.R. Biris, C. Socaci, M. Coros, L. Magerusan, M.C. Rosu, M.D. Lazar, G. Borodi, S. Pruneanu, *Graphene-bimetallic nanoparticle composites with enhanced electro-catalytic detection of bisphenol A*, Nanotechnology 2016, 48, 484001.
18. L. Magerusan, F. Pogacean, C. Socaci*; M. Coros, M.C. Rosu, S. Pruneanu* *Charge transfer-resistance in nitrogen-doped/undoped graphene: Its influence on the electro-catalytic reduction of H₂O₂*, Electrochimica Acta 2016, 220, 664-671.
19. A.-M. Craciun, A. Diac, M. Focsan, C. Socaci, K. Magyari, D. Maniu, I. Mihalache, L. M. Veca, S. Astilean, A. Terec, *Surface passivation of carbon nanoparticles with p-phenylenediamine towards photoluminescent carbon dots* RSC Advances 2016, 6, 56944-56951.

20. M.-C. Roşu, C. Socaci, V. Floare-Avram, G. Borodi, F. Pogăcean, M. Coroş, L. Mageruşan, *Photocatalytic performance of graphene/TiO₂-Ag composites on amaranth dye degradation*, Mat. Chem. Phys. 2016, 179, 233-241.
21. L. Magerusan, C. Socaci*, F. Pogacean, M.C. Rosu, A.R. Biris, M. Coros, A. Turza, V. Floare-Avram, G. Katona, S. Pruneanu*, *Enhancement of peroxidase-like activity of N-doped graphene assembled with iron-tetrapyridylporphyrin*, RSC Advances 2016, 6, 79497-79506.
22. M. Coroş, F. Pogăcean, M.-C. Roşu, C. Socaci, G. Borodi, L. Mageruşan, A. R. Biriş, S. Pruneanu, *Simple and cost-effective synthesis of graphene by electrochemical exfoliation of graphite rods* RSC Advances 2016, 6, 2651-2661.
23. C. Socaci*, F. Pogăcean, A. R. Biriş, M. Coroş, M.-C. Roşu, L. Mageruşan, G. Katona, S. Pruneanu*, *Graphene oxide vs. reduced graphene oxide as carbon support in porphyrin peroxidase biomimetic nanomaterials*, Talanta 2016, 148, 511-517.
24. D. Olteanu, A. Filip, C. Socaci, A. R. Biris, X. Filip, M. Coros, M. C. Rosu, F. Pogacean, C. Alb, I. Baldea, P. I. Bolfa, S. Pruneanu, *Cytotoxicity assessment of graphene-based nanomaterials on human dental follicle stem cells*, Coll. Surfaces B 2015, 136, 791-798
25. A. Diac, M. Focsan, C. Socaci, A.-M. Gabudean, C. Farcau, D. Maniu, E. Vasile, A. Terec, L. M. Veca, S. Astilean *Covalent conjugation of carbon dots with Rhodamine B and assessment of their photophysical properties* RSC Advances 2015, 5, 77662-77669.
26. L. Pop, M.L. Golban, N. Hadade, C. Socaci, I. Grosu, *CuAAC synthesis of tetragonal building blocks decorated with nucleobases*, Synthesis 2015, 47, 2799-2804.
27. R.-I. Stefan-van Staden, L. A. Gugoasa, C. Socaci, A. R. Biris, *New nanocomposite-graphene pastes based stochastic microsensors*, RSC Advances 2015, 5, 66185-66191
28. C. Socaci*, L. Magerusan, R. Turcu, J. Liebscher, *Developing Novel Strategies for the Functionalization of Core-shell Magnetic Nanoparticles with Folic Acid Derivatives*, Mat. Chem. Phys. 2015, 162, 131-139.
29. F. Pogacean, C. Socaci*, S. Pruneanu*, A.R. Biris, M. Coros, L. Magerusan, G. Katona, R. Turcu, G. Borodi, *Graphene based nanomaterials as chemical sensors for hydrogen peroxide - a comparison study of their intrinsic peroxidase catalytic behavior*, Sens. Actuat. B: Chemical 2015, 213, 474-483.

30. S. Pruneanu, A. R. Biriş, F. Pogăcean, C. Socaci, M. Coroş, M. Roşu, F. Watanabe, A. S. Biriş, *The influence of uric and ascorbic acid on the electrochemical detection of dopamine using graphene-modified electrodes*, *Electrochimica Acta* 2015, 154, 197-204.
31. M.L. Golban, V. Pascanu, N.D. Hadade, L. Pop, C. Socaci*, I. Grosu*, *Novel Nucleobase-Decorated Tripodands: Synthesis and Supramolecular Properties*, *Synthesis* 2014, 46, 1229.
32. V. Pascanu, M. Circu, C. Socaci*, A. Terec, A. Soran, I. Grosu *Synthesis of cryptands with di-yne units via acetylenic homocoupling reactions of C-3 tripodands* *Tetrahedron Lett.* 2013, 54, 6133-6136.
33. C. Socaci, M. Rybka, L. Magerusan, A. Nan, R. Turcu, J. Liebscher, *Magnetite nanoparticles coated with alkyne-containing polyacrylates for click chemistry* *J. Nanopart. Res.* 2013, 15, 1747.
34. F Pop, C. Socaci, A. Terec, E. Condamine, R. A. Varga, C. I. Rat, J. Roncali, I. Grosu *Cryptands and bismacrocycles with cyanuric and isocyanuric units: synthesis and structural investigations* *Tetrahedron* 2012, 68, 8581-8588
35. M. Circu, V. Pascanu, A. Soran, B. Braun, A. Terec, C. Socaci*, I. Grosu* *Solid state supramolecular assemblies of triol podands through H-bonds* *CrystEngComm*, 2012, 14, 632-639
36. C. Cismaş, N. Vanthuynne, R. A. Varga, E. Bogdan, C. Roussel, I. Grosu *Geometric Enantiomerism in Cyclic Compounds Series: Chiral Dibrominated 1,3-Dioxanes* *Chirality* 2011, 23, 167-171
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38. C. Oprea, V. Pascanu, C. Cismaş*, A. Terec, R.A. Varga, I. Grosu, *Tri-armed podands as efficient precursors for supramolecular systems*, *Studia Universitatis Babes-Bolyai Chemia*, 2010, 55 (3), 177-182
39. M. Circu, V. Niste, R.A. Varga, E. Denes, E. Bogdan, C. Cismaş, I. Grosu *Synthesis, separation and X-ray diffractometry investigations of trans, trans 1,4-bis(5'-hydroxymethyl-2',5' -dimethyl-1',3' -dioxan-2' -yl) benzene*, *Studia Universitatis Babes-Bolyai Chemia*, 2010, 55 (3), 183-190

40. P. Kaloudis, M. D'Angelantonio, M. Guerra, M. Spadafora, C. Cismas, T. Gimisis, Q.G. Mulazzani, C. Chatgililoglu *Comparison of Isoelectronic 8-HO-G and 8-NH₂-G Derivatives in Redox Processes* J. Am. Chem. Soc. 2009, 143, 15895-15902
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43. C. Cismas, T. Gimisis, *exo-N-[2-(4-Azido-2,3,5,6-tetrafluorobenzamido)ethyl]-dC: a novel intermediate in the synthesis of dCTP derivatives for photoaffinity labelling* Tetrahedron Lett. 2008, 49, 1336-1339
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47. H. A. Scheidt, W. Flasche, C. Cismaș, M. Rost, A. Herrmann, J. Liebscher, D. Huster *Design and application of lipophilic nucleosides as building blocks to obtain highly functional biological surfaces* J. Phys. Chem. B 2004, 108, 16279-1628
48. W. Flasche, C. Cismas, A. Herrmann, J. Liebscher *Lipophilic Nucleosides by Sonogashira Coupling* Synthesis 2004, 2335-2341
49. M. Stuparu, I. Grosu, L. Muntean, G. Plé', C. Cismaș, A. Terec, A. Nan, S. Mager *Synthesis and Stereochemistry of Some New 1,3-Oxathiane Derivatives* Monatshefte fuer Chemie 2004, 135, 89-96

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Lecții invitate la conferințe internaționale, workshop-uri, școli de vară, seminarii științifice (de cel puțin 1 oră) susținute în diferite laboratoare de cercetare din străinătate:

C. Cismaș,

"*Supramolecular architectures by hydrogen bonding driven self-assembly*" și

"*An overview on Pd catalyzed reactions in organic chemistry*",

Intensive Lecture Course at the Ss. Cyril and Methodius University Skopje, 01 – 05 October 2008,
Stability Pact for South Eastern Europe

Prezentări orale la manifestări științifice

1. "Preparation and applications of graphene-based nanomaterials", Crina Socaci, The 13th International Symposium of The Romanian Catalysis Society, iunie 2022, Baile Govora.
2. "Graphene-based nanomaterials with peroxidase-like activity", Crina Socaci, Zilele Academice Clujene, octombrie 2018, Cluj-Napoca.
3. "Graphene-based nanomaterials with peroxidase-like activity", C. Socaci, F. Pogacean, S. Pruneanu, A.R. Biris, M. Coros, M.C. Rosu, G. Katona, The 10th International Conference Processes in Isotopes and Molecules, septembrie 2015, Cluj-Napoca.
4. "Synthesis and Characterization of Folic Acid Functionalized Magnetic Nanoparticles", The 9th International Conference Processes in Isotopes and Molecules, Crina Socaci, septembrie 2013, Cluj-Napoca.
5. "Podanzi cu simetrie C_3 și aplicațiile acestora în sinteza de criptanzi", C. Cismaș, F. Piron, V. Pascanu, V. Niste, C. Oprea, M. Circu, A. Terec, I. Grosu Zilele Academice Clujene, 04 iunie 2010, Cluj-Napoca.

6. "Geometric enantiomers of new chiral brominated 1,3-dioxanes", Cismaș, R. A. Varga, N. Vanthuyne, B. Joulin, T. Kurtan, E. Bogdan, C. Roussel, I. Grosu, The XXIX National Conference of Chemistry, Calimanesti-Caciulata, Valcea (Romania), Oct. 6-8, 2008.

7. "Glycogen phosphorylase as "tool" for the structure determination and distribution pattern of oxidized DNA bases", Cismaș, T. Gimisis A 3-a intalnire semianulala a rețelei CLUSTOXDNA (PC 6), septembrie 2005, Atena, Grecia si A 4-a intalnire semianulala a rețelei CLUSTOXDNA (PC 6), 16-18 martie 2006 Annecy, Franta.

d. Brevete de invenție:

1. Procedeu de obținere a unui material nanocompozit pe bază de grafene și porfirină utilizat pentru modificarea unui electrod pentru detecția pirocatechinei din soluții apoase, M. Coros, C. Socaci, S. Pruneanu, F. Pogacean, M.C. Rosu, L. Magerusan, Patent nr. 132196/2021

2. Procedeu de obtinere a unui nou material nanocompozit cu aplicare in detectia electrochimica a ionilor de plumb, L. Magerusan, C. Socaci, M. Coros, F. Pogacean, S. Pruneanu, Patent nr. 131442/2020

3. Materiale compozite pe baza de TiO₂-Pt/oxid de grafena si TiO₂-Pt/oxid de grafena redus pentru fotodegradarea colorantilor de tip azoic din ape, M. C. Rosu, M. Coros, C. Socaci, L. Magerusan, F. Pogacean, S. Pruneanu, Patent nr. 131970/2019

e. Proiecte de cercetare-dezvoltare coordonate:

1. EEA Norway Grants - RO-NO-2019 (**Director de proiect**) TiO₂ nanotubes/graphene-based nanomaterials to address the emerging contaminants pollution 1.164.000 Euro (Total) 485.000 Euro (INCDTIM)

2. ATTRACT Third Party Project finantat prin programul cadru Orizont 2020 (**Responsabil partener**) Carbon quantum dots/graphene hybrids with broad photoresponsivity BANDPASS 100.000 Euro (Total) 22.000 Euro (INCDTIM)

3. PNII-RU-TE-2014-4-0305 (**Director de proiect**) Graphene-porphyrin supramolecular assemblies for chemical and electrochemical detection of hydrogen peroxide-an oxidative stress marker 550.000 Ron 550.000 Ron
4. PN-II-ID-2018-2358 (**Director de proiect**) Design, formation and properties of new supramolecular assemblies by hydrogen bonding of nucleotide bases 581.014,22 Ron

Candidat,

Dr. Crina SOCACI

