

Laboratory of surface chemistry and catalysis 2024

Lucrări publicate în reviste clasificate ISI/ Scientific Papers in ISI ranked journals

1. C. M.Vladut*, **C. Anastasescu**, S. Preda,O. C. Mocioiu, S.Petrescu, J. Pandele-Cusu, D. Culita, V. Bratan, **I. Balint** and M. Zaharescu*,Mn-doped ZnO nanopowders prepared by sol–gel and microwave-assisted sol–gel methods and their photocatalytic properties, Beilstein J. Nanotechnol. 2024, 15, 1283–1296, I.F. =2.6
2. **M.Pavel***, **C. Anastasescu**, Irina Atkinson, **F. Papa** and **I. Balint***, Improved Photocatalytic Activity of Dion–Jacobson-Type Tantalate Perovskites Modified with FeCl₂, Materials 2024, 17(19), 4862, IF=3.1
3. E.I. Adam-Dima*, M. Balas, **M. Anastasescu**, C. Purdel, D. Margina, Synthesis of homogeneous spherical selenium nanoparticles through a chemical method for cancer therapy applications, Toxicology in Vitro, 2024, 95, 105765, I. F.=3.2,doi.org/10.1016/j.tiv.2023.105765
4. A.M. Burloiu, G. Manda*, D. Lupuliasa, R. P. Socoteanu, D. P. Mihai, I. V. Neagoe, I. L. Anghelache, M. Surcel, **M. Anastasescu**, L. Olariu, C. E. Gird, S. F. Barbuceanu, L. F. Vieira Ferreira, R. Boscencu*, Assessment of Some Unsymmetrical Porphyrins as Promising Molecules for Photodynamic Therapy of Cutaneous Disorders, Pharmaceuticals 2024, 17(1), 62, I.F. = 4.3,doi.org/10.3390/ph17010062
5. A. R. Ungureanu, E. A. Ozon*, A. M. Musuc*, **M. Anastasescu**, I. Atkinson, R. A. Mitran, A. Rusu, L. Popescu, C. E. Gîrd, Preparation and Preliminary Analysis of Several Nanoformulations Based on Plant Extracts and Biodegradable Polymers as a Possible Application for Chronic Venous Disease Therapy, Polymers 2024, 16(10), 1362, I.F. =4.7,doi.org/10.3390/polym16101362
6. E.A. Ozon, E. Mati, O. Karampelas, V. Anuta, I. Sarbu, A.M. Musuc, R. A. Mitran, D.C. Culita, I. Atkinson, **M. Anastasescu**, D. Lupuliasa, M.A. Mitu, The development of an innovative method to improve the dissolution performance of rivaroxaban, Heliyon 10, 2024, e33162; I.F.=3.4, doi.org/10.1016/j.heliyon.2024.e33162
7. S. A. Leau, M. Marin, **A.M. Toader**, **M. Anastasescu**, C. Matei, C. Lete*, S. Lupu, MeNPs - PEDOT composites based detection platforms for epinephrine and quercetin, Biosensors 2024, 14(7), 320; I.F. = 4.9,doi.org/10.3390/bios14070320
8. A. M. Burloiu, E. A. Ozon, A. M. Musuc*, **M. Anastasescu**, R. P. Socoteanu*, I. Atkinson, D. C. Culita, V. Anuta, I. A. Popescu, D. Lupuliasa, D. P. Mihai, C. E. Gîrd, R. Boscencu, Porphyrin Photosensitizers into Polysaccharide-Based Biopolymer Hydrogels for Topical Photodynamic Therapy: Physicochemical and Pharmacotechnical Assessments, Gels 2024, 10, 499, I.F. = 5.0, doi.org/10.3390/gels10080499
9. G. Dobri, A. Banu, C. Donath, E. I. Neacsu, **M. Anastasescu**, M. E. Maxim, C. Vasilescu, L. Preda, M. Marcu, Effect of Surface Roughness on the Electrochemical Behavior and Corrosion Resistance of TiTaNbZrAg Alloy with Different Amount of Tantalum in Bulk Composition, Materials 2024, 17(21) 5217, I.F. = 3.1, doi.org/10.3390/ma17215217

- 10.** M. Gartner, A.M. Szekeres*, S. Simeonov, M. Covei, M. Anastasescu, S. Preda, J. M. Calderon-Moreno, L. Predoana, H. Stroescu*, D. Mitrea, M. Niculescu, Structure, optical and electrical properties of Nb(Zn) doped sol-gel ITO films: Effect of substrates and dopants, *Molecules* 2024, 29(22), 5480, I. F. = 4.2, doi.org/10.3390/molecules29225480
- 11.** A. Szekeres*, S. Alexandrova, M. Anastasescu, H. Stroescu*, M. Gartner, P. Petrik, Optical and morphological characterization of nanoscale oxides grown in low energy H⁺ implanted c-Silicon, *Micro* 2024, 4(3), 426-441; doi.org/10.3390/micro4030027 (factor ISI in asteptare)
- 12.** M. Chelu, J. M. Calderon Moreno, A. M. Musuc and M. Popa*. Natural Regenerative Hydrogels for Wound Healing. *Gels* 2024, 10(9), 547, I.F.=5.0, doi.org/10.3390/gels10090547
- 13.** G. Patrinoiu, A. M. Musuc, J. M. Calderon-Moreno, M. Florea, F. Neatu, P. Ionita, Honey-Derived Hydrochar Containing 2,2,6,6-tetramethylpiperidine-1-oxyl Free Radical for Degradation of Aqueous Organic Pollutants, *Environmental Processes-an International Journal* 2024, 11 (4) Art. Nr. 60, I.F.=3.7, DOI 10.1007/s40710-024-00731-5
- 14.** A. M. Popescu, J. M. Calderon-Moreno, K. Yanushkevish, A. Aplevich, O. Demidenko, E. I. Neacsu, V. Constantin, Corrosion Behavior of NdFeB Magnets in Different Aqueous Solutions, *Journal of the Brazilian Chemical Society* 35, e-20230089, I.F.= 1.3, dx.doi.org/10.21577/0103-5053.20230089
- 15.** S. Minkovska, G. Hadjichristov, A. Neacsu, V. Chihaiia, Y. Fedorov, Photoswitchable photochromic chelating spironaphthoxazines: Synthesis, photophysical properties, quantum-chemical calculations and complexation ability, *ACS Omega*, 9(4), 4144–4161, 2024, I.F. = 3.7
- 16.** A. Neacsu, V. Chihaiia, R. Bucuresteanu, A. Ficai, R.D. Trusca, V.-A. Surdu, A. Nicolaev, B. Cojocaru, M. Ionita, I. Calinescu, V. Parvulescu, L.-M. Ditu, Physicochemical Characterization of Ca-and Cu-Decorated TiO₂ Microparticles and Investigation of Their Antimicrobial Properties, *Materials*, 17(18), 4483, 2024, I.F.= 3.1, doi.org/ 10.3390/ma17184483
- 17.** A. Neacsu, G. Munteanu, V. Chihaiia, Comparative Study of the Inclusion Complexation of Uracil and 5-Fluorouracil with Native and Modified Cyclodextrins: Some Theoretical and Practical Considerations, *Dig. J. Nanomater. Biostructures*, 19(1), 187-199, 2024, I. F. = 1.0
- 18.** H. T. Thanh, O. K. Le, V. Chihaiia and D. N. Son, Carbon dioxide conversion to methanol on a PdCo bimetallic catalyst, *Phys. Chem. Chem. Phys.*, 26, 3963-3973, 2024, I.F.= 2.9
- 19.** N. T. X. Huynh, V. T. Ngan, N.T. Y. Ngoc, V. Chihaiia and D. N. Son, Hydrogen storage in M(BDC)(TED)0.5 metal-organic framework: physical insights and capacities, *RSC Adv.*, 14, 19891-19902, 2024, I.F.= 3.9
- 20.** D. L. Quan, V.Chihaiia and D. N. Son, Mechanisms and selectivity of methanol oxidation on PtRuM3/C-MWCNT (M = Fe and Co) electrocatalysts, *RSC Adv.*, 14, 25918-25931, 2024, I.F.= 3.9
- 21.** T. H. Pham, V. Chihaiia and D. N. Son, Unravelling the effects of functional groups on the adsorption of 2-mercaptopbenzothiazole on a copper surface: a DFT study *Phys. Chem. Chem. Phys.*, 26, 17345-17358, 2024, I.F.= 2.9
- 22.** A. M. Toader , P. Oancea, I. Dascalu, M. Enache, Insight into the interaction of quinizarin with SDS micelles - effects of additives, *Acta Chimica Slovenia*, (2024) Apr 18;71(2):197-203, I.F. =1.2, DOI 10.17344/acsi.2023.8539Scientific.

- 23.** G. Dobrescu; R. Georgescu-State; F. Papa; J. F. van Staden; R. N. State; Fractal Properties of Composite-Modified Carbon Paste Electrodes—A Comparison between SEM and CV Fractal Analysis, *Fractal Fract.* 2024, 8(4), 205; I.F. = 3.6, doi.org/10.3390/fractalfract8040205
- 24.** G. Dobrescu, F. Papa, R. State, Fractal Analysis and Fractal Dimension in Materials Chemistry., *Fractal Fract.* 2024, 8, 583, I.F. = 3.6,doi.org/10.3390/fractalfract8100583
- 25.** A. Vasile, G. Dobrescu, V. Bratan, M. Teodorescu, C.Munteanu, I. Atkinson, C. Negrila, F. Papa*, I. Balint, Fractal Behavior of Nanostructured Pt/TiO₂ Catalysts: Synthesis, Characterization and Evaluation of Photocatalytic Hydrogen Generation, *Catalysts* 2024,14,619,I.F.=3.8, doi.org/10.3390/catal14090619
- 26.** S. Simeonov, A.Szekeres, M. Covei, H. Stroescu, M. Nicolescu ,P. Chesler, C. Horoiu and M. Gartner*, Sol-Gel Multilayered Niobium (Vanadium)-Doped TiO₂ for CO Sensing and Photocatalytic Degradation of Methylene Blue, *Materials*, 2024, 17, 1923, I.F.=3.4, doi.org/10.3390/ma17081923
- 27.** M.Gartner, C. Horoiu, Platforma multi -senzor pentru testarea gazelor, MSP Magurele Science Park, Our Bet on Science, Iunie 2024, Nr.9, pg 36
- 28.** R. Georgescu-State, J. F. van Staden, R. I. Stefan-van Staden, R. N. State, and F. Papa, Fast on-Site and Highly Sensitive Determination of Allura Red Using a Portable Electrochemical Platform Based on Poly(pyrrole) and Bimetallic Nanocomposites Anchored on Reduced Graphene Oxide, *Journal of The Electrochemical Society*, 2024, 171, 067511, IF= 3.9
- 29.** S.B. Ivan, M. M. Trandafir, F. Papa, C. C. Negrila, S. Loridan, M. Florea, I. Popescu, and I. C. Marcu, Investigation of the Effect of the Third Cation M (M = Mg, Al, Mn, and Fe) on the Properties and Catalytic Behavior in Ethane Oxidative Dehydrogenation of M NiNbO Mixed Oxides, *Industrial & Engineering Chemistry Research*, 63(44), 2024, I.F= 3.8
- 30.** G. Petcu, E. M. Anghel, I. Atkinson, D.C. Culita, N. G. Apostol, A. Kuncser, F.Papa, A. Baran, J .L. Blin, V. Parvulescu, Composite Photocatalysts with Fe, Co, and Ni Oxides on Supports with Tetracoordinated Ti Embedded into Aluminosilicate Gel during Zeolite Y Synthesis, *Gels* 2024, 10, 129, I.F. =4.6, DOI: 10.3390/gels10020129
- 31.** D. Lincu, S. Ionit, M. Deaconu, F.Papa, B. Trica, C. Matei, D. Berger, R. A. Mitran, Optimizing nanocasting techniques for stable bismuth-mesoporous silica composites in thermal energy storage application , *Sustainable Materials and Technologies*, 42, 2024, e01157, I.F. = 8.7
- 32.** G. Petcu, E. M. Ciobanu, G. Paun, E. Neagu, A. Baran, B. Trica, A. Neacsu, I. Atkinson, R. Bucuresteanu, A. Badaluta, L. M. Ditu, V. Parvulescu, Hybrid Materials Obtained by Immobilization of Biosynthesized Ag Nanoparticles with Antioxidant and Antimicrobial Activity. *Internationa Journal of Molecular Sciences* 2024,25,4003, I.F.=5.6, doi.org/10.3390/ijms25074003
- 33.** D. Negoescu, V. Bratan, M. Gherendi, I. Atkinson, D. C.Culita, A. Neacsu, A. Baran, S. Petrescu, V. Parvulescu, Iron Promoted TiO₂-Activated Carbon Nanocomposites for Photocatalytic Degradation of Congo Red in Water. *Catalysts* 2024, 14, 844, I.F.= 3.8, doi.org/10.3390/catal14120844
- 34.** A. Precupas, V. T. Popa*, Impact of sinapic acid on bovine serum albumin thermal stability, *International Journal of Molecular Sciences*, 2024, 25, 2, 936. I.F.= 4.9.
- 35.** A. Precupas*, D. Gheorghe, A. R. Leonties, V.T. Popa*, Resveratrol Effect on α -Lactalbumin Thermal Stability, *Biomedicines*, 2024, 12 (10), 2176, I.F.= 3.9.

- 36.** A. Serban, J. García-Fernández, D. Gheorghe, R. Sandu, A. Neacsu, D. A. Neacsu, A. Botea-Petcu, S. D. Villares, F. Teodorescu, **V. T. Popa**, M. de la Fuente Freire, S.Tanasescu, Aptamer functionalization effect on the interaction of sphingomyelin nanoemulsions with plasma proteins. A thermodynamic approach, *Journal of Molecular Liquids*, 2024, 397, 124032, I.F.= 6.3
- 37.** C. G. Mihalcea, M. Stefan, C. Ghica, O. G. Florea, A. Stanoiu, C. E. Simion, **S. Somacescu**, D. Ghica, In-depth insight into the structural properties of nanoparticulate NiO for CO sensing, *Applied Surface Science*, 651, 159252 (2024), I.F.=5. 6 ,doi.org/10.1016/j.apsusc.2023.159252
- 38.** R. Georgescu-State, R.I. Stefan-van Staden, J. K. F van Staden, **R. N. State**, An electrochemical 3D platform using poly (alizarin red S) and magnetite nanoparticles for rapid recognition and determination of tryptophan enantiomers in whole blood samples*Electrochimica Acta* 501, 144774, 2024, I.F.= 5.5
- 39.** I. R. Comnea-Stancu, R. Georgescu-State, R. I. Stefan-van Staden, **R. N. State**, R. M Ilie-Mihai, The portable stochastic sensor as a screening tool for simultaneous determination of HER-1 and CA 125—a key factor in the rapid recognition of gastric cancer, *Microchimica Acta* 191 (10), 597, 2024, I. F.=5.4
- 40.** G. Ionescu, **R. N. State**, M. Patrascu, A. Volceanov, C. Gheorghe, D. Boldor, C. Marculescu, Production of co-formulants for biodiesel from waste mixtures pyrolysis oil through Fe-based catalysts, *Biomass and Bioenergy* 182, 107088, 2024, I.F. = 6
- 41.** **A. M. Toader**, M. C. Buta, W. Urland, A. Stroppa, F. Cimpoesu, Assessing the lanthanide pseudopotential datasets in terms of Slater-Condon spectral parameters. *Computational Materials Science*, 235, 112742, I.F.= 3.3
- 42.** **A. M. Toader**, M. C. Buta, F. Cimpoesu, A. Mihai, The Holohedrization Effect in Ligand Field Models, *Symmetry*. 2024, 16, 22, I.F.= 2.2