

## Laboratory of surface chemistry and catalysis

2023

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

- 1. S. Somacescu, P. Osiceanu, J. M. Calderon Moreno, D. C. Culita, F. Neatu, M.M. Trandafir, S. Neatu, A. Kuncser, G. P. Szijjarto, E. Talas, A. Tompos, I. Borbath, M. Florea,** Design of electrocatalysts with reduced Pt content supported on mesoporous NiWO<sub>4</sub> and NiWO<sub>4</sub>-graphene nanoplatelets composite for oxygen reduction and hydrogen oxidation in acidic medium, *International Journal of Hydrogen Energy*, Volume 48, Issue 16, 22 February 2023, 6317-6335, 2023, IF=7.2
- 2. A.M. Toader, I. Dascalu, E.I. Neacsu, M. Enache,** Binding interactions of anticancer drug actinomycin D with bile salts micelles, *Journal of the Serbian Chemical Society*, 88 (4), 367-379, 2023, IF=1.0
- 3. G. Petcu, F. Papa, E. M. Anghel, I. Atkinson, S. Preda, S. Somacescu, D. C. Culita, A. Baran, E. M. Ciobanu, L. M. Jecu, M. Constantin, V. Parvulescu,** Effects of Aluminosilicate Gel Treatment and TiO<sub>2</sub> Loading on Photocatalytic Properties of Au-TiO<sub>2</sub>/zeolite Y, *Gels*, 9, 503, 2023, IF= 4.6
- 4. L. Nedelcu, J.M.F. Ferreira, A.-C. Popa, L. Amarande, B. Nan, L.-M. Balescu, C.D. Geambasu, M.-C. Cioangher, L. Leonat, M. Grigoroscuta, D. Cristea, H. Stroescu, R.C. Ciocoiu, G.E. Stan,** Multi-Parametric Exploration of a Selection of Piezoceramic Materials for Bone Graft Substitute Applications, *Materials*, 16, 901, 2023, IF=3.
- 5. M. Filip, E. M. Anghel, V. Rednic, F. Papa, S. Somacescu, C. Munteanu; N. Aldea, J. Zhang, V. Parvulescu.,** Variation in Methane, Support Interaction with TiO<sub>2</sub> Loading and Synthesis Conditions for Pt-Ti/SBA-15 Active Catalysts in Methane Combustion, *Nanomaterials* 13, 1647. 2023, IF= 5.3
- 6. M. Mureseanu, M. Filip, I. Bleotu, C.I. Spinu, A. H. Marin, I. Matei, V. Parvulescu,** Cu(II) and Mn(II) Anchored on Functionalized Mesoporous Silica with Schiff Bases: Effects of Supports and Methane Ligand Interactions on Catalytic Activity, *Nanomaterials* 13, 1884, 2023, IF=5.3
- 7. M. Mureseanu, V. Parvulescu, G. Petcu, S. Nastase, T. D. Pasatoiu, M. Andruh,** Preparation and Characterization of Biomimetic Heterogeneous Catalysts with Cu(I) And Mn(II) Complexes, *Rev. Roum. Chim.*, 68(3-4); 2023, IF=0.5
- 8. M. Balcan, D.F. Anghel, D. Negoescu, V. Bratan, V. Parvulescu,** Nonionic surfactant-templated mesoporous silica as supports for nickel active catalysts in liquid phase organic compounds oxidation, *Rev. Roum. Chim.*, 68(7-8); 2023, IF=0.5
- 9. G. Petcu, F. Papa, I. Atkinson, A. Baran, N.G. Apostol, S. Petrescu, L. Richaudeau, J.-L. Blin, V. Parvulescu,** Co- and Ni-Doped TiO<sub>2</sub> Nanoparticles Supported on Zeolite Y with Photocatalytic Properties, *Nanomaterials* 13, 2200, 2023, IF=5.3
- 10. H. Stroescu, M. Nicolescu, D. Mitrea, E. Tenea, I. Atkinson, M. Anastasescu, J.M. Calderon-Moreno, Mariuca Gartner,** Effect of Al Incorporation on the Structural and Optical Properties of Sol-Gel AZO Thin Films, *Materials*, 16, 3329, 2023, IF=3.4

11. **M. Gartner, H. Stroescu, D. Mitrea, M. Nicolescu**, Review: Various applications of ZnO thin films obtained by chemical routes in the last decade, *Molecules*, 28, 4674, 2023, IF= 4.6
12. M. Covei, C. Bogatu, S. Gheorghita A. Duta, **H. Stroescu, M. Nicolescu, J. M. Calderon Moreno**, I. Atkinson, V. Bratan, **M. Gartner**, Influence of the deposition parameters on the properties of TiO<sub>2</sub> thin films on spherical substrates, *Materials*, 16, 4899, 2023, IF=3.4
13. **M. Nicolescu, M. Anastasescu, J.M. Calderon Moreno, H. Stroescu**, M. Covei, I. Atkinson, S. Mihaiu, **M. Gartner**, Optical and electrical properties of Al-doped ZnO thin films deposited by sol-gel method, *Rev Roum Chim*, 68(3-4), 165-171, 2023, IF= 0.5
14. S. Escolastico, M. Balaguer, C. Solis Díaz, F. Toldra-Reig, **S. Somacescu**, U. Gerhards, A. Aguadero, K. Haas-Santo, R. Dittmeyer, J.M. Serra, Promotion of mixed protonic-electronic transport in La<sub>5.4</sub>WO<sub>11.1</sub>-d membranes under H<sub>2</sub>S atmospheres, *Journal of Materials Chemistry A*, 11(32), 17246-17256, 2023, IF= 11.9
15. **M. Enache**, B. M. Andriesei, A. Oancea, A.-M. Udrea, A. Raducan, P. Oancea, S. Avram, Interaction of anti-inflammatory drug nimesulide with ionic and non-ionic surfactant micelles: Insights from spectral and bioinformatics approach, *J. Molecular Liquids*, 392, 123511, 2023, IF= 6.0
16. A. Raditoiu, V. Raditoiu, M.F. Raduly, A.R. Gabor, A.N. Frone, M. Grapin, **M. Anastasescu**, Cellulose Fabrics Functionalized with Sol-Gel Photocatalytic Coatings Based on Iron (III) Phthalocyanine Tetracarboxylic Acids/TiO<sub>2</sub>-Silica Hybrids, *Gels* 2023, 9(11), 860, 2023, IF=4.6
17. D. Pelinescu, **M. Anastasescu**, V. Bratan, V.-A. Maraloiu, C. Negrila, **D. Mitrea, J.M. Calderon-Moreno**, S. Preda, I.C. Gafu, A. Stan, R. Ionescu, I. Stoica, **C. Anastasescu**, M. Zaharescu, **I. Balint**, Antibacterial Activity of PVA Hydrogels Embedding Oxide Nanostructures Sensitized by Noble Metals and Ruthenium Dye, *Gels* 2023, 9(8), 650, 2023, IF=4.6
18. **C. Anastasescu**, S. Neagu, S. Preda, D. Culita, M. Stancu, C. Banciu, C. Munteanu, V. Bratan, **J.M. Calderon-Moreno, R. State, M. Anastasescu, M. Enache, I. Balint, M. Zaharescu**, Antibacterial Activity of ZnSe, ZnSe-TiO<sub>2</sub> and TiO<sub>2</sub> Particles Tailored by Lysozyme Loading and Visible Light Irradiation, *Antioxidants* 2023, 12(3), 691, 2023, IF=7.0
19. V. Purcar, V. Raditoiu, F.M. Raduly, A. Raditoiu, S. Caprarescu, A.N. Frone, R. Azomoghi, **M. Anastasescu, H. Stroescu**, C.-A. Nicolae, Influence of Perfluorooctanoic Acid on Structural, Morphological, and Optical Properties of Hybrid Silica Coatings on Glass Substrates, *Appl. Sci.* 13(3), 1669, 2023, IF= 2.7
20. **M. Pavel, C. Anastasescu, R.-N. State**, A. Vasile, **F. Papa, I. Balint**, Photocatalytic Degradation of Organic and Inorganic Pollutants to Harmless End Products: Assessment of Practical Application Potential for Water and Air Cleaning, *Catalysts*, 13(2), 380, 2023, IF=3.9
21. **I. Balint, M. Pavel**, Light-Assisted Catalysis in Water and Indoor Air Cleaning: Challenges and Perspectives, *Catalysts*, 13(7), 1032, 2023, IF=3.9
22. R. Georgescu-State, J. F. van Staden, R.I. S. van Staden, **R.N. State**, Electrochemical platform based on molecularly imprinted polymer with zinc oxide nanoparticles and

multiwalled carbon nanotubes modified screen-printed carbon electrode for amaranth determination, *Microchimica Acta*, 190, 229, 2023, IF=5.7

**23.**A. Mischie, **A. M. Toader**, M. C. Buta, F. Cimpoesu, Harmonic oscillator model of aromaticity (HOMA) in conjugated radicals and cations, *Computational and Theoretical Chemistry*, 1230, 114370, 2023, IF=2.8

**24.** W. He, Y. Yang, C. Li, W.P.D. Wong, F. Cimpoesu, **A. M. Toader**, Z. Wu, X. Wu, Z. Lin, Q. Xu, K. Leng, A. Stroppa, K. P. Loh, Near-90° Switch in the Polar Axis of Dion-Jacobson Perovskites by Halide Substitution, *J. Am. Chem. Soc.*, 145, 25, 14044-14051, 2023

**25.** E. Goncarenco, I.P. Morjan, C.T. Fleaca, F. Dumitrache, E. Dutu, M. Scarisoreanu, V.S. Teodorescu, A. Sandulescu, **C. Anastasescu**, **I. Balint**, Titania nanoparticles for photocatalytic degradation of ethanol under simulated solar light, *Beilstein J. Nanotechnol.* 14, 616-630, 2023, IF=3.1

**26.** **M. Gartner**, A. Szekeres, **H. Stroescu**, **D. Mitrea**, M. Covei, Advanced Nanostructured Coatings Based on Doped TiO<sub>2</sub> for Various Applications, *Molecules* 28 (23), 7828, 2023, IF= 4.6

**27.** O.K. Le, **V. Chihaiia**, D.N. Son, Effects of N-doped concentration in graphene on CO<sub>2</sub> adsorption, *Science & Technology Development Journal - Engineering and Technology*, 6, 1809-1816, 2023

**28.** T. P. Dung, V. Chihaiia, D.N. Son, Effects of functional groups in iron porphyrin on the mechanism and activity of oxygen reduction reaction, *RSC Adv.*, 13, 8523-8534, 2023, IF= 3.9

**29.** N. T. X. Huynh, O. K. Le, T.P. Dung, **V. Chihaiia**, D.N. Son, Theoretical investigation of CO<sub>2</sub> capture in the MIL-88 series: effects of organic linker modification, *RSC Adv.*, 13, 15606-15615, 2023, IF= 3.9

**30.** T. H. Pham, O. K. Le, **V. Chihaiia**, P. K. Le, D.N. Son, Computational Prediction of Electrochemical Corrosion Rates of Copper in the Presence of Corrosion Inhibitors, *J. Electrochem. Soc.*, 170, 111504, 2023, IF=3.9

**31.** **M. Gartner**, A. Szekeres, **H. Stroescu**, **D. Mitrea**, M. Covei, Properties of TiO<sub>2</sub> films, *Encyclopedia of Scholarly Community Encyclopedia -Subject: Materials Science, Coatings & Films-* 10.3390/molecules28237828, 2023