

## Selected publications



Chimist/ Cercetător Științific II

*Departamentul de Spectrometrie de Masă, Cromatografie și Fizică Aplicată*

INCDTIM - Institutul Național de Cercetare-Dezvoltare pentru Tehnologii Izotopice și Moleculare (website: [www.itim-cj.ro](http://www.itim-cj.ro))

1. D.V. Cosma, C. Tudoran, M. Coroș, C. Socaci, A. Urda, A. Turza, M.C. Roșu\*, L. Barbu-Tudoran, I. Stanculescu, **Modification of cotton and leather surfaces using cold atmospheric pressure plasma and TiO<sub>2</sub>-SiO<sub>2</sub>-reduced graphene oxide nanopowders**, *Materials* 16 (2023) 1397, 19 pp. <https://doi.org/10.3390/ma16041397>
2. D. Bala, I. Matei, G. Ionita, D.V. Cosma, M.C. Rosu, M. Stanca, C. Gaidau, M. Baleanu, M. Virgolici, I. Stanculescu, **Luminescence, paramagnetic, and electrochemical properties of copper oxides-decorated TiO<sub>2</sub>/graphene oxide nanocomposites**, *International Journal of Molecular Sciences* 23 (2022) 14703, 12 pp. <https://doi.org/10.3390/ijms232314703>
3. D. Cosma, A. Urda, T. Radu, M.C. Rosu, M. Mihet, C. Socaci\*, **Evaluation of the photocatalytic properties of copper oxides/graphene/TiO<sub>2</sub> nanoparticles composites**, *Molecules* 27 (2022) 5803, 15 pp. <https://doi.org/10.3390/molecules27185803>
4. E. Indrea, M.C. Rosu\*, R.C. Suci, T.D. Silipas, V. Danciu, **Microstructure of titania aerogels by reverse Monte Carlo simulations**, *Journal of Physics and Chemistry of Solids* 168 (2022) 110826, 5 pp. <https://doi.org/10.1016/j.jpcs.2022.110826>
5. **Evaluation of N-doped graphene role in the visible-light driven photodegradation of sulfamethoxazole by a TiO<sub>2</sub>-silver-graphene composite**, A. Urda, T. Radu, C. Socaci\*, V. Floare-Avram, D. Cosma, M.C. Rosu, M. Coros, S. Pruneanu, F. Pogacean, *Journal of Photochemistry & Photobiology, A: Chemistry* 425 (2022) 113701, 9 pp. <https://doi.org/10.1016/j.jphotochem.2021.113701>
6. **Photodynamic effect of light emitting diodes on E. coli and human skin cells induced by a graphene-based ternary composite**, M. Suci, S. Porav, T. Radu, M.C. Rosu, M.D. Lazar, S. Macavei, C. Socaci\*, *Journal of Photochemistry & Photobiology, B: Biology* 223 (2021) 112298, 14 pp. <https://doi.org/10.1016/j.jphotobiol.2021.112298>
7. **Synthesis and characterization of graphene oxide-zirconia (GO-ZrO<sub>2</sub>) and hydroxyapatite-zirconia (HA-ZrO<sub>2</sub>) nano-fillers for resin-based composites for load-bearing applications**, N. Ilie, C. Sarosi, M.C. Rosu, M. Moldovan, *Journal of Dentistry* 105 (2021) 103557, 9 pp. <https://doi.org/10.1016/j.jdent.2020.103557>
8. **A concise overview on plasma treatment for application on textile and leather materials**, C. Tudoran, M.C. Roșu, M. Coroș, *Plasma Processes and Polymers*, 17(8) (2020) 2000046, 15 pp. <https://doi.org/10.1002/ppap.202000046>
9. **Thermally reduced graphene oxide as green and easily available adsorbent for Sunset yellow decontamination**, M. Coros, C. Socaci, S. Pruneanu, F. Pogacean, M.C. Rosu, A. Turza, L. Magerusan, *Environmental Research* 182 (2020) 109047, 9 pp. <https://doi.org/10.1016/j.envres.2019.109047>
10. **Synthesis, morpho-structural properties and antibacterial effect of silicate-based composites containing graphene oxide/hydroxyapatite**, M. Moldovan, D. Prodan, C. Sarosi, R. Carpa, C.

Socaci, M.C. Rosu\*, S. Pruneanu, *Materials Chemistry and Physics* 217 (2018) 48–53 <https://doi.org/10.1016/j.matchemphys.2018.06.055>

11. **Graphene/TiO<sub>2</sub>-Ag based composites used as sensitive electrode materials for amaranth electrochemical detection and degradation**, F. Pogacean, M.C. Rosu, M. Coros, L. Magerusan, M. Moldovan, C. Sarosi, A.S. Porav, R.I. Stefan-van Staden, S. Pruneanu, *Journal of The Electrochemical Society*, 165(8) (2018) B3054-B3059 <https://doi.org/10.1149/2.0101808jes>
12. **Graphene-porphyrin composite synthesis through graphite exfoliation: The electrochemical sensing of catechol**, M. Coros, F. Pogacean, L. Magerusan, M.C. Rosu, A.S. Porav, C. Socaci, A. Bende, R.I. Stefan-van Staden, S. Pruneanu, *Sensors and Actuators B: Chemical*, 256 (2018) 665–673 <https://doi.org/10.1016/j.snb.2017.09.205>
13. **Molecular recognition of colon cancer biomarkers: P53, KRAS and CEA in whole blood samples**, L.A. Gugoasa, R.I. Stefan-van Staden, A.J.M. ÁIOgaidi, C. Stanciu-Gavan, J.F. van Staden, M.C. Rosu, S. Pruneanu, *Journal of The Electrochemical Society*, 164 (9) (2017) B443-B447 <https://doi.org/10.1039/C7RA09260A>
14. **Azo dyes degradation using TiO<sub>2</sub>-Pt/graphene oxide and TiO<sub>2</sub>-Pt/reduced graphene oxide photocatalysts under UV and natural sunlight irradiation**, M.C. Rosu, C. Socaci, M. Coros, F. Pogacean, L. Magerusan, A. Turza, S. Pruneanu, *Solid State Sciences* 70 (2017) 13-20 <https://doi.org/10.1016/j.solidstatesciences.2017.05.013>
15. **Multimode microsensors based on Ag–TiO<sub>2</sub>–graphene materials used for the molecular recognition of carcinoembryonic antigen in whole blood samples**, L.A. Gugoasa, A.J. M. ÁIOgaidi, R.I. Stefan-van Staden, A. El-Khatib, M.C. Rosu, S. Pruneanu, *RSC Advances* 7 (2017) 28419–28426 <https://doi.org/10.1039/C7RA03842A>
16. **Cytotoxicity of methylcellulose-based films containing graphenes and curcumin on human lung fibroblasts**, M.C. Rosu, E. Pall, C. Socaci, L. Magerusan, F. Pogacean, M. Coros, A. Turza, S. Pruneanu, *Process Biochemistry* 52 (2017) 243–249 <https://doi.org/10.1016/j.procbio.2016.10.002>
17. **Photocatalytic performance of graphene/TiO<sub>2</sub>-Ag composites on amaranth dye degradation**, M.C. Rosu, C. Socaci, V. Floare-Avram, G. Borodi, F. Pogacean, M. Coros, L. Magerusan, S. Pruneanu, *Materials Chemistry and Physics* 179 (2016) 232-241 <https://doi.org/10.1016/j.matchemphys.2016.05.035>
18. **Cytotoxicity assessment of graphene-based nanomaterials on human dental follicle stem cells**, D. Olteanu, A. Filip, C. Socaci, A.R. Biris, X. Filip, M. Coros, M.C. Rosu, F. Pogacean, C. Alb, I. Baldea, P. Bolfa, S. Pruneanu, *Colloids and Surfaces B: Biointerfaces* 136 (2015) 791–798 <https://doi.org/10.1016/j.colsurfb.2015.10.023>
19. **Promising psyllium-based composite containing TiO<sub>2</sub> nanoparticles as aspirin-carrier matrix**, M.C. Rosu, I. Bratu, *Progress in Natural Science: Materials International* 24 (2014) 205-209 <https://doi.org/10.1016/j.pnsc.2014.05.007>
20. **The influence of drying conditions on some physical–chemical properties of TiO<sub>2</sub>-based layers prepared using different organic binders**, M.C. Rosu, M. Mihet, I. Bratu, *Materials Science in Semiconductor Processing* 19 (2014) 95-100 <https://doi.org/10.1016/j.mssp.2013.12.007>
21. **Physical-chemical characterization of titanium dioxide layers sensitized with the natural dyes carmine and morin**, M.C. Rosu, R.C. Suciu, M. Mihet, I. Bratu, *Materials Science in Semiconductor Processing* 16(6) (2013) 1551-1557 <https://doi.org/10.1016/j.mssp.2013.05.020>
22. **The influence of alizarin and fluorescein on the photoactivity of Ni, Pt and Ru-doped TiO<sub>2</sub> layers**, M.C. Rosu, R.C. Suciu, M.D. Lazar, I. Bratu, *Materials Science and Engineering B* 178(7) (2013) 383-390 <https://doi.org/10.1016/j.mseb.2013.01.001>