

**LISTA PUBLICAȚIILOR REZULTATE ÎN URMA CERCETĂRII ȘTIINȚIFICE DIN
PROGRAMUL DE STUDII DOCTORALE**

Nume: FRĂȚILESCU

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INSTITUTUL DE CHIMIE "CORIOLAN DRĂGULESCU"	
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INTRARE/IESIRE	

1. Lucrări publicate:

- 1) Fagadar-Cosma E.; Pleșu N.; Lascu A.; Anghel D.; Cazacu M.; Ianasi C.; Fagadar-Cosma G.; **Fratilescu I.**; Epuran C. Novel Platinum-Porphyrin as Sensing Compound for Efficient Fluorescent and Electrochemical Detection of H₂O₂ *Chemosensors*. **2020**, 8(2), 29. <https://doi.org/10.3390/chemosensors8020029>; F.I. = 5.02
- 2) Anghel, D.; Lascu, A.; Epuran, C.; **Fratilescu, I.**; Ianasi, C.; Birdeanu, M.; Fagadar-Cosma, E. Hybrid Materials Based on Silica Matrices Impregnated with Pt-Porphyrin or PtNPs Destined for CO₂ Gas Detection or for Wastewaters Color Removal. *Int. J. Mol. Sci.* **2020**, 21(12), 4262. <https://doi.org/10.3390/ijms21124262>; F.I. = 5.62
- 3) **Fratilescu, I.**; Dudás, Z.; Birdeanu, M.; Epuran, C.; Anghel, D.; Fringu, I.; Lascu, A.; Len, A.; Fagadar-Cosma, E. Hybrid Silica Materials Applied for Fuchsine B Color Removal from Wastewaters. *Nanomaterials*. **2021**, 11(4), 863. <https://doi.org/10.3390/nano11040863>; F.I. = 5.719
- 4) Fringu, I.; Lascu, A.; Măcsim, AM.; **Fratilescu, I.**; Epuran, C.; Birdeanu, M.; Fagadar-Cosma, E. Pt(II)-A₂B₂ metalloporphyrin AuNPS hybrid material suitable for optical detection of 1-anthraquinonsulfonic acid. *Chem. Pap.* **2022**, 76, 2513–2527. <https://doi.org/10.1007/s11696-021-02047-2>; F.I. = 2.41
- 5) **Fratilescu, I.**; Lascu, A.; Taranu, B.O.; Epuran, C.; Birdeanu, M.; Măcsim, A.-M.; Tanasa, E.; Vasile, E.; Fagadar-Cosma, E. One A₃B Porphyrin Structure—Three Successful Applications. *Nanomaterials* **2022**, 12(11), 1930. <https://doi.org/10.3390/nano12111930>; [Editor's Choice] [Cover Issue]; F.I. = 5.3

2. Lucrări publicate în reviste CNCSIS (cu specificarea categoriei CNCSIS): -

3. Lucrări publicate în reviste indexate BDI: -

4. Capitole de carte: -

5. Brevete:

- 1) RO Patent-a202000533, **Fratilescu, I.**; Anghel, D.; Epuran, C.; Ianasi, C.; Fagadar-Cosma E. Titlu: „Metoda de Adsorbție a Coloranților din Ape Contaminate Utilizând Materiale Hibrade pe Bază de Silice Mezoporoasă care Încorporează Nanoparticule de Platină sau Pt(II)-tetra-(aliloxi-fenil)-porfirina”, publicat în RO-BOPI 2/2022, din 28.02.2022

6. Comunicări la conferințe naționale sau internaționale:

- 1) Anghel D.; Lascu A.; **Fratilescu I.**; Epuran C.; Făgădar-Cosma E., Zn-Metalloporphyrins Containing Pyridyl Groups and Their Comparative Capacity to Coordinate Hexachloroplatinic Acid, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Seghedin, Ungaria, pp [100–103](#), ISBN 978-963-306-702-4
- 2) **Fratilescu I.**; Epuran C.; Lascu A., Birdeanu M.; Făgădar-Cosma E. Detection of Different Quinone Derivatives Using Pt(II)-Metalloporphyrin-AuNPs Hybrid Nanomaterials. *New trends and strategies in the chemistry of advanced materials with relevance in biological systems, technique and environmental protection*, 14th Edition, 20–21 octombrie **2022**, Timișoara, România, volum electronic, pp 47
- 3) **Fratilescu I.**; Anghel D.; Lascu A., Water soluble porphyrins used as recovery agents of platinum from leaching solutions, *New trends and strategies in the chemistry of advanced materials with relevance in biological systems, technique and environmental protection* 12th Edition, 06–07 iunie **2019**, Timișoara, România, volum electronic, pp 84
- 4) **Fratilescu I.**; Anghel D.; Lascu A., Făgădar-Cosma E., Water soluble porphyrin derivatives used in platinum recovery, *EmergeMAT 2nd international conference on emerging technologies in materials engineering*, 6–8 noiembrie **2019**, București, România
- 5) **Fratilescu I.** Efficient Recovery of Wastewaters Based on Beneficial Interferences Between Porphyrin Derivatives, Platinum Nanoparticles and Silica Mesoporous Matrices, *MacroYouth 2021 – ICMPP – Open Door to The Future Scientific Communications of Young Researchers 2nd Edition*, 19 noiembrie **2021**, Iași, România, pp 23–24
- 6) **Fratilescu I.**; Dudas Z.; Birdeanu M.; Epuran C.; Anghel D.; Lascu A., Făgădar-Cosma E. Hybrid Silica Materials Containing Platinum, Impregnated with Porphyrins and/or Platinum Nanoparticles for Fuchsine B Color Removal From Wastewaters. *New trends and strategies in the chemistry of advanced materials with relevance in biological systems, technique and environmental protection*, Eveniment Online, 07–08 octombrie **2021**, Timișoara, România, volum electronic, pp 35
- 7) **Fratilescu, I.**; Fagadar-Cosma, E. Recovery of Waste Industrial Waters Containing Red Congo by Multifunctionalized Mesoporous Silica Nanomaterials. *17th International Symposium "Priorities of Chemistry for a Sustainable Development" PRIOCHEM. 2022*, Bucharest, Romania, 27–29 octombrie **2021**, 7(1), 19, <https://doi.org/10.3390/chemproc2022007019>
- 8) **Fratilescu I.**; Epuran C.; Lascu A., Birdeanu M.; Făgădar-Cosma E. Detection of Different Quinone Derivatives Using Pt(II)- Metalloporphyrin-AuNPs Hybrid Nanomaterials. *New trends and strategies in the chemistry of advanced materials with relevance in biological systems, technique and environmental protection*, 14th Edition, 20–21 octombrie **2022**, Timișoara, România, volum electronic, pp 47

Comunicări spre publicul larg

- 1) Expunerea posterului cu titlul: Water soluble porphyrins used as recovery agents of platinum from leaching solutions. Autorii posterului: **Fratilescu I.**, Anghel D., Lascu A.; Eveniment: *A XIV-a ediție a evenimentului Noaptea Cercetătorilor Europeni*, finanțat

7. Alte mențiuni:

Lista lucrărilor cu tematica complementară publicate în calitate de prim-autor/coautor în perioada studiilor de doctorat:

7.1 Lucrări ISI

- 1) Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. Structured Thin Films Based on Synergistic Effects of $MnTa_2O_6$ Oxide and *bis*-Carboxy-phenyl-substituted Porphyrins, Capable to Inhibit Steel Corrosion. *Processes* **2021**, 9(11), 1890. <https://doi.org/10.3390/pr9111890>; F.I = 3.352
- 2) Epuran, C.; **Fratilescu, I.**; Anghel, D.; Birdeanu, M.; Orha, C.; Fagadar-Cosma, E. A Comparison of Uric Acid Optical Detection Using as Sensitive Materials an Amino-Substituted Porphyrin and Its Nanomaterials with CuNPs, PtNPs and Pt@CuNPs. *Processes* **2021**, 9(11), 2072. <https://doi.org/10.3390/pr9112072>; [Feature Paper]; F.I = 3.352
- 3) Birdeanu, M.; **Fratilescu, I.**; Epuran, C.; Murariu, A.C.; Socol, G.; Fagadar-Cosma, E. Efficient Decrease in Corrosion of Steel in 0.1 M HCl Medium Realized by a Coating with Thin Layers of $MnTa_2O_6$ and Porphyrins Using Suitable Laser-Type Approaches. *Nanomaterials* **2022**, 12(7), 1118. <https://doi.org/10.3390/nano12071118>; F.I. = 5.3
- 4) Epuran, C.; **Fratilescu, I.**; Macsim, A.-M.; Lascu, A.; Ianasi, C.; Birdeanu, M.; Fagadar-Cosma, E. Excellent Cooperation between Carboxyl-Substituted Porphyrins, κ -Carrageenan and AuNPs for Extended Application in CO_2 Capture and Manganese Ion Detection. *Chemosensors* **2022**, 10(4), 133. <https://doi.org/10.3390/chemosensors10040133>; [Cover Issue]; F.I. = 4.2
- 5) Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. Structured composites between $MnTa_2O_6$ and porphyrins: Influence of the number of carboxylic groups grafted on porphyrins on the capacity to inhibit corrosion of steel. *Indian J. Chem. Technol.* **2022**, 29(4), 354–366. <https://doi.org/10.56042/ijct.v29i4.59344>; F.I. = 0.56
- 6) Lascu, A.; Epuran, C.; **Fratilescu, I.**; Birdeanu, M.; Halip, L.; Fagadar-Cosma, E. Porphyrin Hetero-Trimer Involving a Hydrophilic and a Hydrophobic Structure with Application in the Fluorescent Detection of Toluidine Blue. *Chemosensors* **2022**, 10(11), 481. <https://doi.org/10.3390/chemosensors10110481>; F.I. = 4.2
- 7) Vlascici, D.; Lascu, A.; **Fratilescu, I.**; Anghel, D.; Epuran, C.; Birdeanu, M.; Chiriac, V.; Fagadar-Cosma, E. Asymmetric Pt(II)-Porphyrin Incorporated in a PVC Ion-Selective Membrane for the Potentiometric Detection of Citrate. *Chemosensors* **2023**, 11(2), 108. <https://doi.org/10.3390/chemosensors11020108>; F.I. = 4.2
- 8) Birdeanu, M.; **Fratilescu, I.**; Epuran, C.; Mocanu, L.; Ianasi, C.; Lascu, A.; Fagadar-Cosma, E. Nanomaterials Based on Collaboration with Multiple Partners: $Zn_3Nb_2O_8$ Doped with Eu^{3+} and/or Amino Substituted Porphyrin Incorporated in Silica Matrices for the Discoloration of Methyl Red. *Int. J. Mol. Sci.* **2023**, 24(10), 8920. <https://doi.org/10.3390/ijms24108920>; F.I. = 5.6
- 9) Lascu, A.; Vlascici, D.; Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. The Influence of the Nature of the Polymer Incorporating the Same A_3B Multifunctional

7.2. Lucrări BDI

- 1) Anghel, D.; Lascu, A.; **Fratilescu, I.**; Epuran, C.; Plesu N.; Fagadar-Cosma E. Review about Main Requirements for Porphyrin Derivatives as Components of Dye Sensitized Solar Cells. *J. Solar Eneg. Res. Updat.* **2019** 6, 78–86. <https://doi.org/10.31875/2410-2199.2019.06.9>

7.3. Brevete

- 1) **RO Patent–a202200130**, Birdeanu, M.; Epuran, C.; **Frățilescu, I.**; Fagadar-Cosma, E. Titlu: „Procedeu de obținere de inhibitori de coroziune organizați in straturi subțiri alternative de porfirine substituie cu grupări carboxil și oxid pseudo-binar de tip $MnTa_2O_6$, realizate prin tehnica PLD”, **publicat în RO-BOPI 9/2023, din 29.09.2023**

7.4. Comunicări la conferințe naționale sau internaționale

- 1) **Fratilescu I.**; Anghel D.; Lascu A.; Epuran C.; Făgădar-Cosma E., Platinum-Porphyrin Involved in the UV-Vis Spectrophotometric detection of Rhodamine B and Oxygen Peroxide, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Seghedin, Ungaria, pp [133–136](#), ISBN 978-963-306-702-4
- 2) Epuran C.; Anghel D.; Lascu A.; **Fratilescu I.**; Făgădar-Cosma E., Optical Detection of Rhodamine B by Pt(II) Tetra-(4-Allyloxy-Phenyl)-Porphyrin, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Seghedin, Ungaria, pp [129–132](#), ISBN 978-963-306-702-4
- 3) **Fratilescu I.**; Epuran C.; Anghel D.; Lascu A.; Făgădar-Cosma E. Water Advanced Antibacterial Compounds. Complexes Between 1-Methylimidazole and a Carboxy – A_3B Porphyrin, *New Trends in Chemistry Research*, 15th Edition, 21 – 22 septembrie **2023**, Timișoara, România, volum electronic, pp 69
- 4) Epuran C.; **Fratilescu I.**; Anghel D.; Lascu A. Făgădar-Cosma E. Complex Between an A_3B Porphyrin, AuNPs and k-carrageenan used for Detection of 1-Methylimidazole, *New Trends in Chemistry Research*, 15th Edition, 21–22 septembrie **2023**, Timișoara, România, volum electronic, pp 68
- 5) Anghel D.; Lascu A.; **Fratilescu I.**; Epuran C.; Făgădar-Cosma E. New Approaches to Biological Imaging. Coordination of Boron Compounds to Different Porphyrins for Laser Dyes and Fluorescent Labeling, *New Trends in Chemistry Research*, 15th Edition, 21–22 septembrie **2023**, Timișoara, România, volum electronic, pp 65
- 6) Lascu A.; Epuran C.; **Fratilescu I.**; Anghel D.; Făgădar-Cosma E. Porphyrin-based Nanomaterials Able to Quantify Water in Food Packaging *New Trends in Chemistry Research*, 15th Edition, 21–22 septembrie **2023**, Timișoara, România, volum electronic, pp 67
- 7) Birdeanu M.; Birdeanu A.V.; **Fratilescu I.**; Fagadar-Cosma E. Diminishing of steel corrosion in acid environment using thin bi-layer surfaces of mono-carboxyl-substituted A_3B porphyrin and $MnTa_2O_6$. *Proceedings 13th International Conference on Nanomaterials - Research & Application – Nanocon 2021*, 20 – 22 octombrie **2021**, Brno, Cehia, pp 448–453; ISBN: 978-80-88365-00-6. <https://doi.org/10.37904/nanocon.2021.4373>

- 8) Fagadar-Cosma E.; Birdeanu M.; **Fratilescu I.**; Birdeanu A.V.; Stamatina I. When Laser Methods Encounter Porphyrin Derivatives to Create Multifunctional Thin Layers Destined for Corrosion Inhibition and Sensor Devices. *Webinar on Laser, Optics & Photonics*, 26 – 27 iulie **2021**, Greenville, SUA, pp 17

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