

INFORMAȚII PERSONALE

PÎRVU VALERIU CRISTIAN

Str. Polizu Gheorghe, 1-7, Bucuresti-Sector 1, Bucuresti,

0214023894

cristian.pirvu@upb.ro

<https://chimie.upb.ro/departamente/chimie-general/colectiv/pirvu-cristian/>

Sexul

| Data nașterii

| Naționalitatea

LOCUL DE MUNCA ACTUAL

Universitatea Politehnica din Bucuresti, Facultatea Inginerie Chimica si Biotehnologii,
Departamentul Chimie Generală

EXPERIENȚA PROFESIONALĂ

- 2016 - prezent **Prodecan – Facultatea de Inginerie Chimică si Biotehnologii**
- Responsabil cu internaționalizarea si activitățile cu studenții (2016 – 2020);
 - Responsabil cu activitatea de cercetare si activitățile studențești (2020 – prezent);
- Tipul sau sectorul de activitate Învățământ superior;
- 2014 - prezent **Profesor, Universitatea POLITEHNICA Bucuresti, Facultatea de Inginerie Chimică si Biotehnologii, Departamentul Chimie Generală;**
- Predare cursuri și conducere seminarii si laboratoare la diferite discipline. Conducere proiecte de licență / disertație și activitate de cercetare doctoranzi. Activități de cercetare;
- Tipul sau sectorul de activitate Învățământ superior;
- 2009 - 2014 **Conferențiar, Universitatea POLITEHNICA Bucuresti, Facultatea Chimie Aplicata si Știința Materialelor, Departamentul Chimie Generală;**
- Predare cursuri și conducere seminarii si laboratoare la diferite discipline. Conducere proiecte de licență / disertație. Activități de cercetare;
- Tipul sau sectorul de activitate Învățământ superior;
- 2004 - 2009 **Șef lucrări, Universitatea POLITEHNICA București, Facultatea Chimie Aplicata si Știința Materialelor, Departamentul Chimie Generală;**
- Predare cursuri și conducere seminarii si laboratoare la diferite discipline. Conducere proiecte de licență / disertație. Activități de cercetare;
- Tipul sau sectorul de activitate Învățământ superior;
- 1997 - 2004 **Preparator / Asistent universitar, Universitatea POLITEHNICA București, Facultatea Chimie Aplicata si Știința Materialelor, Departamentul Chimie Generală;**
- Conducere seminarii si laboratoare la diferite discipline. Activități de cercetare;
- Tipul sau sectorul de activitate Învățământ superior;
- 1995 - 1997 **inginer, SC Romceram S.A. ;**
- Activități de cercetare și organizarea unui laborator de analiză cantitativă.
- Tipul sau sectorul de activitate Industrie;

EDUCAȚIE ȘI FORMARE

2016 Abilitare in Inginerie Chimica

- Titlul tezei: Contributions to the recent research in development and advanced characterization of electrochemically deposited micro and nano-structured coatings

Universitatea Politehnica din București, Romania

2010 - 2013 Post-doc, - Program postdoctoral pentru cercetare avansata in domeniul nanomaterialelor, POSDRU/89/1.5/S/54785, UPB

Universitatea Politehnica din București, Romania

2004 Doctor in Inginerie Chimica

- Titlul tezei: Metode electrochimice de depoluare a compusilor organici

Universitatea Politehnica din București, Romania

2001 / 2003 / 2004 Stagii de cercetare

2001 - Spania, Universitatea din Barcelona;

2003 / 2004, Italia, Universitatea din Modena;

1995 - 1996 Studii aprofundate

- Universitatea POLITEHNICA Bucuresti, Facultatea Chimie Industrială, Specializarea Medicamente și cosmetice, Universitatea Politehnica din București, Romania

1990 - 1995 Inginer

- Universitatea POLITEHNICA Bucuresti, Facultatea Chimie Industrială, Specializarea Tehnologia Substanțelor Organice, Titlul de INGINER în profilul CHIMIE.

COMPETENȚE PERSONALE

Limba(i) maternă(e)

Romana

Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleza	C1	C1	C1	C1	C1
Italiana	B1	B1	B1	B1	B1

Competențe de comunicare

- Abilitați de comunicare si lucru in echipa; elaborare de documente științifice si administrative;
- Aplicații Microsoft Office: Word, Excel, PowerPoint, Outlook

Competențe
organizaționale/manageriale

- Competențe manageriale – dobândite prin activitatea de Director de departament (2012-2016), Prodecan (2016- prezent), coordonarea Laboratorului Fenomene de Interfață și a Laboratorului de caracterizare avansată a proprietăților morfologice și electrochimice

INFORMATII SUPLIMENTARE

105 lucrări ISI publicate (30 - Q1, 17 - Q2), Indice Hirsch 21;
8 brevete de invenție;
6 cărți / capitole de cărți,
Expert Evaluator proiecte UEFISCDI 2014, 2016, 2019 și Expert Evaluator Horizon 2020 - FETOPEN 2018;
Membru International Society of Electrochemistry;
Membru Societatea de Chimie din România;
ORCID - 0000-0003-0339-6146
Researcher ID - V-4619-2018
Proiecte de cercetare (director) - PN-II-ID-PCE 32-106/2008-2012, Environment friendly products based on polymeric composite conducting covering on nanostructured supports with antifouling affect and the applications in reducing pollution and corrosion, Project PN-II - 253/2014 – NANOCOAT, New nanostructured multifunctional coatings for orthopaedic implants, Project PN-II-ID-PCE 31-003.2 / 2007-2010, New advanced products and technologies for environmental friendly, corrosion resistant and low VOC content multilayer coatings;

Pirvu Valeriu Cristian

16.07.2025

UNIVERSITATEA POLITEHNICA DIN BUCUREȘTI

FACULTATEA INGINERIE CHIMICA SI BIOTEHNOLOGII

Departamentul CHIMIE GENERALA

LISTA DE LUCRARI

Prof. PIRVU VALERIU CRISTIAN

1. Heavy Metal Ion Detection Using TiO₂ Nanotubes and Self-Reduced TiO₂ Nanotube Electrodes, Pirvu, Cristian; Prodana, Mariana ... Buica, George-Octavian Published: Dec 2024 in Applied Sciences DOI: 10.3390/APP142411879 Accession Number: WOS:001385545400001.
2. Irodia, R.; Mîndroiu, M.; Bîru, I.; Ioniță, G.; Mihai, G. V.; Enăchescu, M.; Orbeci, C.; Pîrvu, C., Double S-Scheme Polydopamine/TiO₂/Chlorophyll as Stable and Efficient Green Photoelectrocatalyst. ChemElectroChem 2023, 10 (24), e202300277.
3. A.G. Olaru, V. Butculescu, C. Dumitriu, N. Badea, S. Popescu, C. Ungureanu, C. Pirvu, Biopolymers as intermediate layers for amoxicillin grafting on antibacterial surface, Surf Interfaces, 33 (2022).
4. C. Pirvu, G. Stanciu, G.O. Buica, Cu(II) and Hg(II) detection under photo-assisted accumulation in an open circuit potential at a polyazulene-EDTA like modified electrode, Analyst, 147 (2022) 4730-4734.
5. C. Dumitriu, A. Constantinescu, A. Dumitru, C. Pirvu, Modified Electrode with ZnO Nanostructures Obtained from Silk Fibroin for Amoxicillin Detection, Crystals, 12 (2022).
6. Penta, C. Ungureanu, A.B. Stoian, C. Pirvu, EFECTUL POTENTIALULUI ELECTRIC INTRAORAL ASUPRA Candida albicans THE EFFECT OF INTRAORAL ELECTRICAL POTENTIAL ON Candida albicans, Revista Romana De Materiale-Romanian Journal of Materials, 52 (2022) 145-155.
7. C. Dumitriu, A. Constantinescu, C. Pirvu, Functionalized TiO₂ Nanotube Platform for Gliadin Electroanalysis, Crystals, 11 (2021).
8. Danes, C.A.; Dumitriu, C.; Vizireanu, S.; Bitu, B.; Nicola, I.M.; Dinescu, G.; Pirvu, C. Influence of Carbon Nanowalls on Copper Deposition for Electrostatic Conductive Coatings. Coatings 2021, 11.
9. Ungureanu, C.; Fierascu, I.; Fierascu, R.C.; Costea, T.; Avramescu, S.M.; Calinescu, M.F.; Somoghi, R.; Pirvu, C. In Vitro and In Vivo Evaluation of Silver Nanoparticles Phytosynthesized Using Raphanus sativus L. Waste Extracts. Materials 2021, 14.
10. Ungureanu, C.; Barbulescu, L.; Dumitriu, C.; Manole, C.; Pirvu, C. Titanium industrial residues surface modification towards its reuse as antimicrobial surfaces. Environ Sci Pollut R 2021, 28, 38224-38237.
11. Dumitriu, C.; Constantinescu, A.; Pirvu, C. Functionalized TiO₂ Nanotube Platform for Gliadin Electroanalysis. Crystals 2021, 11.
12. Popescu S, Zarif ME, Dumitriu C, Ungureanu C, Pirvu C. Silk Fibroin-Based Hybrid Nanostructured Coatings for Titanium Implantable Surfaces Modification. Coatings. 2020;10(6).
13. Ionita D, Pirvu C, Stoian AB, Demetrescu I. The Trends of TiZr Alloy Research as a Viable Alternative for Ti and Ti6 Zr Roxolid Dental Implants. Coatings. 2020;10(4).

14. Barbulescu LE, Dumitriu C, Dragut DV, Nicoara A, Badanoiu A, Pirvu C. Residual titanium flakes as a novel material for retention and recovery of rare earth and relatively rare earth elements. *Environ Sci Pollut R*. 2020;27(4):4450-9.
15. Buica GO, Stoian AB, Manole C, Demetrescu I, Pirvu C. Zr/ZrO₂ nanotube electrode for detection of heavy metal ions. *Electrochem Commun*. 2020;110.
16. Barbinta-Patrascu ME, Badea N, Bacalum M, Ungureanu C, Suica-Bunghez IR, Lordache SM, et al. 3D hybrid structures based on biomimetic membranes and *Caryophyllus aromaticus* - "green" synthesized nano-silver with improved bioperformances. *Mat Sci Eng C-Mater*. 2019;101:120-37.
17. Albu AM, Draghicescu W, Munteanu T, Ion R, Mitran V, Cimpean A, et al. Nitrodopamine vs dopamine as an intermediate layer for bone regeneration applications. *Mat Sci Eng C-Mater*. 2019;98:461-71.
18. Badea SL, Enache S, Tamaian R, Niculescu VC, Varlam M, Pirvu CV. Enhanced open-circuit voltage and power for two types of microbial fuel cells in batch experiments using *Saccharomyces cerevisiae* as biocatalyst. *J Appl Electrochem*. 2019;49(1):17-26.
19. A.M. Anton, I. Rau, F. Kajzar, A.M. Simion, C. Pirvu, N. Radu, C. Simion, Natural materials with enhanced optical damage threshold, *Opt Mater*, 86 (2018) 1-6, WOS:000453499500001.
20. L. Ichim, C. Pirvu, C.C. Manole, Electrochemical stability of Titanium-Hydroxyapatite implantable material modified with Ceftriaxone, *Int J Electrochem Sc*, 13 (2018) 11895-11905, WOS:000452744500046.
21. C.C. Manole, A. Dinischiotu, C. Nica, I. Demetrescu, C. Pirvu, Influence of electrospun TiO₂ nanowires on corrosion resistance and cell response of Ti50Zr alloy, *Mater Corros*, 69 (2018) 1609-1619, WOS:000451781100010.
22. R. Ion, A. Mazare, C. Dumitriu, C. Pirvu, P. Schmuki, A. Cimpean, Nanochannelar Topography Positively Modulates Osteoblast Differentiation and Inhibits Osteoclastogenesis, *Coatings*, 8 (2018), WOS:000447978200002.
23. C. Dumitriu, S.I. Voicu, A. Muhulet, G. Nechifor, S. Popescu, C. Ungureanu, A. Carja, F. Miculescu, R. Trusca, C. Pirvu*, Production and characterization of cellulose acetate - titanium dioxide nanotubes membrane fraxiparinized through polydopamine for clinical applications, *Carbohydr Polym*, 181 (2018) 215-223, ISSN: 0144-8617, WOS:000418661000027.
24. M.E. Barbinta-Patrascu, N. Badea, C. Ungureanu, C. Pirvu, V. Iftimie, S. Antohe, Photophysical Studies on Biocomposites Based on Carbon Nanotubes and Chlorophyll-Loaded Biomimetic Membranes, *Rom Rep Phys*, 69 (2017), ISSN - 1221-1451, WOS:000401305200018.
25. L. Barbulescu, A. Badanoiu, A. Nicoara, C. Pirvu, Use of Wastes from Titanium Industry as Alternative Aggregate for Portland Cement Mortars, *Rev Rom Mater*, 47 (2017) 16-23, ISSN - 1583-3186, WOS:000396979900002.
26. C. Pirvu*, M. Mindroiu, O. Craciunescu, D. Constantin, The Bioactivity and Stability Evaluation of the PPy/Ca-P Hybrid Films on Titanium Alloy Implant, *Mater Plast*, 53 (2016) 722-726, WOS:000395047100032.

27. M.E. Barbinta-Patrascu, N. Badea, C. Pirvu, M. Bacalum, C. Ungureanu, P.L. Nadejde, C. Ion, I. Rau, Multifunctional soft hybrid bio-platforms based on nano-silver and natural compounds, *Mat Sci Eng C-Mater*, 69 (2016) 922-932, WOS:000383930900106.
28. M. Andrei, S. Tovar, I. Parlatescu, C. Gheorghe, C. Pirvu*, Correlation of corrosion resistance of dental alloy restorations with oral lichen planus pathology, *Mater Corros*, 67 (2016) 882-887, WOS:000383643000011.
29. C.C. Manole, C. Pirvu, F. Maury, I. Demetrescu, Novel Approach to Surface Plasmon Resonance: A Third Dimension in Data Interpretation Through Surface Roughness Changes, *J Nanosci Nanotechnol*, 16 (2016) 6332-6337, WOS:000386123900133.
30. C.A. Lazar, F. Kajzar, M. Mihaly, C. Pirvu, A.R. Petcu, N.L. Olteanu, I. Rau, DNA based materials doped with praseodymium (III) hydroxide nanoparticles, *Opt Mater*, 56 (2016) 3-7, WOS:000375517200002.
31. M.E. Barbinta-Patrascu, N. Badea, C. Ungureanu, M. Constantin, C. Pirvu, I. Rau, Silver-based biohybrids "green" synthesized from *Chelidonium majus* L., *Opt Mater*, 56 (2016) 94-99, WOS:000375517200018.
32. C.C. Manole, C. Pirvu, I. Demetrescu, Surface Plasmon Resonance in the Study of Phenol Electropolymerization at Ultralow Concentration, *Rev Chim-Bucharest*, 67 (2016) 884-886, WOS:000378158100014.
33. R. Huluba, C. Pirvu, C. Nicolescu, M. Gheorghe, M. Mindroiu, Counter Electrode Based on PEDOT:PSS - TiO₂ NTs Films for Dye-sensitized Solar Cells, *Mater Plast*, 53 (2016) 130-134, WOS:000373966500030.
34. S. Popescu, M. Mindroiu, D. Cabuzu, C. Pirvu*, The Role of NaPSS Surfactant on the Ceria Nanoparticles Embedding in Polypyrrole Films, *J Nanomater*, DOI Artn 9747931, 10.1155/2016/9747931(2016), WOS:000365363600003.
35. F. Iacob, G.T. Tihan, R.G. Zgarian, M. Pauliuc, I. Rau, C. Pirvu, Preliminary studies concerning some natural extracts influence on dentin, *Mol Cryst Liq Cryst*, 628 (2016) 110-114, WOS:000378126400014.
36. C. Ungureanu, C. Dumitriu, S. Popescu, M. Enculescu, V. Tofan, M. Popescu, C. Pirvu*, Enhancing antimicrobial activity of TiO₂/Ti by torularhodin bioinspired surface modification. *Bioelectrochemistry* 107, 14-24, 2016, ISSN:1878-562X, WOS:000365363600003.
37. Dumitriu C, Ungureanu C, Popescu S, Tofan V, Popescu M, Pîrvu, C*, Ti surface modification with a natural antioxidant and antimicrobial agent, *Surface and Coating Technology*, 276, 175-185, 2015, ISSN: 0257-8972, WOS: 000360594600022.
38. Manole CC, Pirvu C, Stoian AB, Moreno JMC, Stanciu D, Demetrescu I., The Electrochemical Stability in NaCl Solution of Nanotubes and Nanochannels Elaborated on a New Ti-20Zr-5Ta-2Ag Alloy, *Journal of Nanomaterials*, 2015, article ID 521276, 9 pages, 2015, ISSN: 1687-4110, WOS:000351112000001.
39. Dumitriu C, Popescu M, Ungureanu C, Pîrvu, C*, Antibacterial efficiencies of TiO₂ nanostructured layers prepared in organic viscous electrolytes, *Applied Surface Science*, 341, 157-165, 2015, ISSN: 0169-4332, WOS: 000352214700021.
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- European Physical Journal B, 88 (8), pp. 1-9, 2015, ISSN: 1434-6028, WOS:000348122700002.
41. Ungureanu C, Popescu S, Purcel G, Tofan V, Popescu M, Salageanu A, Pîrvu, C*, Improved antibacterial behavior of titanium surface with torularhodin-polypyrrole film, Materials Science and Engineering C, 42, pp. 726-733, 2014, ISSN: 0928-4931, WOS: 000340687400091.
 42. Popescu S, Ungureanu C, Albu AM, Pîrvu, C*, Poly(dopamine) assisted deposition of adherent PPy film on Ti substrate, Progress in Organic Coating, 77(11), pp. 1890-900, 2014, ISSN: 0300-9440, WOS: 000353185300038.
 43. Penta V, Pîrvu C, Demetrescu I. Electrochemical Impedance Spectroscopy Investigation on the Clinical Lifetime of ProTaper Rotary File System, Biomed Research International, 2014, Article ID 754189, 10 pages, 2014, ISSN: 2314-6133, WOS: 000330881200001.
 44. Mindroiu M, Pîrvu, C*, Galateanu B, Demetrescu I., Corrosion Behaviour and Cell Viability of Untreated and Laser Treated Ti6Al7Nb Alloys, Rev Chim-Bucharest., 65(3), 328-334, 2014, ISSN: 00347752, WOS:000335294800015.
 45. Andrei M, Pîrvu, C*, Demetrescu I. Electrochemical impedance spectroscopy in understanding the influence of ultrasonic dental scaling on the dental structure-dental filling interface, European Journal of Oral Sciences., 122(6), pp. 411-416, 2014, ISSN: 0909-8836, WOS: 000344785300007.
 46. Popescu S, Manole CC, Pîrvu, C*, Surface Features Changes and Corrosion Stability of Titanium Surfaces by Suitable Treatments, Rev Chim-Bucharest, 64(8), pp. 796-802, 2013, ISSN: 00347752, WOS: 000330329400003.
 47. Mîndroiu, M., Pîrvu, C*, Cîmpean, A., Demetrescu, I., Corrosion and biocompatibility of PPy/PEG coating electrodeposited on Ti6Al7Nb alloy, Materials and Corrosion, 64 (10) , pp. 926-931, 2013, ISSN: 09475117, WOS:000327742100009.
 48. Penta, V., Vornicescu, D., Keusgen, M., Pîrvu, C.*, Understanding the cleaning effect with sodium hypochlorite of Enterococcus faecalis endodontic pathogen using electrochemical impedance spectroscopy (EIS), atomic force microscopy (AFM) and surface plasmon resonance (SPR), Digest Journal of Nanomaterials and Biostructures, 8 (3) , pp. 1205-1214, 2013, ISSN: 18423582, WOS:000327816300028.
 49. Penta, V., Pîrvu, C., Electrochemical impedance spectroscopy (EIS) investigation on the action of dental endodontic lavage substances, Rev Chim-Bucharest, 64 (9), pp. 965-970, 2013, ISSN: 00347752, WOS:000326855900009.
 50. Mindroiu, M., Ion, R., Pîrvu, C., Cîmpean, A., Surfactant-dependent macrophage response to polypyrrole-based coatings electrodeposited on Ti6Al7Nb alloy, Materials Science and Engineering C, 33 (6) , pp. 3353-3361, 2013, ISSN: 09284931, WOS:000320973000033.
 51. Mîndroiu, M., Ungureanu, C., Ion, R., Pîrvu, C*, The effect of deposition electrolyte on polypyrrole surface interaction with biological environment, Applied Surface Science, 276 , pp. 401-410, ISSN: 01694332, WOS:000318979800058.
 52. Dumitriu, C., Pîrvu, C.*, Demetrescu, I., The electrochemical formation and shielding mechanism of TiO₂ nanotubes in organic electrolytes with different viscosity, Journal of the Electrochemical Society, 160 (2) , pp. G55-G60, 2013, ISSN:0013-4651, WOS:000313581600066.

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54. Pirvu, C.*, Manole, C.C., Electrochemical surface plasmon resonance for in situ investigation of antifouling effect of ultra thin hybrid polypyrrole/PSS films, *Electrochimica Acta*, 89 , pp. 63-71, 2013, ISSN:0013-4686, WOS:000315558200009.
55. Ungureanu, C., Pirvu, C., Mindroiu, M., Demetrescu, I., Antibacterial polymeric coating based on polypyrrole and polyethylene glycol on a new alloy TiAlZr, *Progress in Organic Coatings*, 75 (4) , pp. 349-355, 2012, ISSN:0300-9440, WOS:000309695700010.
56. Cursaru, D.-L., Andronescu, C., Pirvu, C., Ripeanu, R., The efficiency of Co-based single-wall carbon nanotubes (SWNTs) as an AW/EP additive for mineral base oils, *Wear*, 290-291 , pp. 133-139, 2012, ISSN:0043-1648, WOS:000307032800016.
57. Pirvu, C., Manole, C.C., Stoian, A.B., Demetrescu, I., Understanding of electrochemical and structural changes of polypyrrole/polyethylene glycol composite films in aqueous solution, *Electrochimica Acta*, 56 (27) , pp. 9893-9903, 2011, ISSN:0013-4686, WOS:000297399100029.
58. Pirvu, C., Demetrescu, I., Drob, P., Vasilescu, E., Ivanescu, S., Mindroiu, M., Vasilescu, C., Drob, S.I., Corrosion behaviour of a new Ti-6Al-2Nb-1Ta alloy in various solutions, *Materials and Corrosion*, 62 (10) , pp. 948-955, 2011, ISSN: 09475117, WOS:000297742200007.
59. Lungu, A., Șulcă, N.M., Vasile, E., Badea, N., Pârvu, C., Iovu, H., The influence of POSS substituent on synthesis and properties of hybrid materials based on urethane dimethacrylate (UDMA) and various polyhedral oligomeric silsesquioxane (POSS), *Journal of Applied Polymer Science*, 121 (5) , pp. 2919-2926, 2011, ISSN:0021-8995, WOS:000291598100053.
60. Manole, C.C., Pirvu, C., Surface and electrochemical analysis for the understanding of TiO₂ nanopores/nanotubes changes in post-elaboration treatment, *Surface and Interface Analysis*, 43 (7) , pp. 1022-1029, 2011, ISSN:0142-2421, WOS:000291600900003.
61. Lacatusu, I., Badea, N., Murariu, A., Pirvu, C., Meghea, A., Vegetal nanoclusters in hybrid silica films prepared by sol-gel spin coating technique, *Journal of Non-Crystalline Solids*, 357 (7) , pp. 1716-1723, 2011, ISSN:0022-3093, WOS:000290006900018.
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63. Demetrescu, I., Pirvu, C.*, Mitran, V., Effect of nano-topographical features of Ti/TiO₂ electrode surface on cell response and electrochemical stability in artificial saliva, *Bioelectrochemistry*, 79 (1) , pp. 122-129, 2010, ISSN:1567-5394, WOS:000278666300020.
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69. Pirvu, C.*, Mindroiu, M., Popescu, S., Demetrescu, I., Electrodeposition of polypyrrole/poly(Styrene Sulphonate) composite coatings on Ti6Al7Nb alloy, *Molecular Crystals and Liquid Crystals*, 521 , pp. 126-139, 2010, ISSN:1542-1406, WOS:000278163100010
70. Popescu, S., Pirvu, C.*, Mindroiu, M., Demetrescu, I., Enhancing the stability of PPy film on Ti by PEG incorporation, *Molecular Crystals and Liquid Crystals*, 522 , pp. 125-135, 2010, ISSN:1542-1406, WOS:000278163300015
71. Popescu, R., Pîrvu, C., Moldoveanu, M., Grote, J.G., Kajzar, F., Rau, I., Biopolymer thin films for optoelectronics applications, *Molecular Crystals and Liquid Crystals*, 522 , pp. 229-237, 2010, ISSN:1542-1406, WOS:000278163300024
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