

CURRICULUM VITAE

INFORMAȚII PERSONALE

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EXPERIENȚA PROFESIONALĂ

DOMENII DE COMPETENȚĂ

Chimie teoretică și computațională, structură moleculară, chimie cuantică, spectroscopie, modelare moleculară, dinamică moleculară, mecanisme de reacție

ACTIVITATEA ȘTIINȚIFICĂ

CĂRȚI / ARTICOLE PUBLICATE:

- **Cărți**, cursuri universitare și manuale de lucrări practice: 5
- **articole științifice** publicate în reviste de specialitate: 77, din care: 51 in reviste ISI
- **participări** la manifestări științifice 91, din care în străinătate 16

Coordonator științific: lucrări de licență, lucrări de disertație, lucrări metodico-științifice pentru obținerea gradului I în învățământul preuniversitar.

Referent științific: Journal of Fluorine Chemistry, International Journal of Quantum Chemistry, Journal of Hazardous Materials, Journal of Water Process Engineering, Crystal, Nanomaterials, Molecules, Int. J. Mol. Sci., Polymers

Brevete: 1

EXPERIENȚĂ DE LUCRU ÎN CERCETARE ȘI INSTRUIRE

DIRECTOR / RESPONSABIL GRANTURI DE CERCETARE / DEZVOLTARE: cu finanțare internă: 1

Colaborator în granturi de cercetare: cu finanțare internă: 22

Colaborator în granturi de cercetare: cu finanțare externă: 5

2004 – conferențiar universitar, prin concurs (Ordinul Ministrului Educației și Cercetării nr. 3895 / 25.05.2004), la Facultatea de Chimie, Universitatea „Alexandru Ioan Cuza” din Iași;

1997 – 2004: lector universitar, prin concurs, la Facultatea de Chimie, Universitatea „Alexandru Ioan Cuza” din Iași;

1994 – 1997: asistent universitar, prin concurs, la Facultatea de Chimie, Universitatea „Alexandru Ioan Cuza” din Iași;

1991 – 1994: preparator universitar, prin concurs, la Facultatea de Chimie, Universitatea „Alexandru Ioan Cuza” din Iași;

2005-2008 Șef catedră, Catedra de Chimie fizică, teoretică și Chimia materialelor, Facultatea de Chimie, Universitatea "Alexandru Ioan Cuza" din Iași.

2012- 2020 – prodecan, Facultatea de Chimie, Universitatea "Alexandru Ioan Cuza" din Iași.

SPECIALIZĂRI POSTUNIVERSITARE

2001 – 2002 (10 luni, iunie – martie), bursă de cercetare **postdoctorat** obținută prin competiție internațională la Universitatea Westfälische Wilhelms din Münster, Institutul de Chimie Organică, Münster, Germania

EDUCAȚIE

- 2000** Doctor în chimie, specialitatea chimie fizică, cu tema de doctorat: "Investigații asupra structurii electronice și reactivității moleculare în soluție", Universitatea "Alexandru Ioan Cuza", Iași
- 1991** iunie, licențiat chimie-fizică, Facultatea de Chimie, secția Chimie-Fizică 5 ani, Universitatea "Alexandru Ioan Cuza", Iași
- 1985** iunie, examen de bacalaureat, Liceul de Chimie industrială "Mihai Eminescu", Botoșani, profilul chimie;

STAGII DE PREGĂTIRE ȘI MOBILITĂȚI

- **1992** septembrie, Timișoara: cursurile de la Școala de Vară de Chimie Cuantică și QSAR organizată de Academia Română și Facultatea de Chimie Timișoara;
- **1993** septembrie, București: cursurile de la Școala de Vară "Efectul Jahn-Teller" organizată de Institutul de Chimie Fizică "I.G. Murgulescu" și Academia Română;
- **1995** mai, Brașov: cursurile "International Workshop / Symposium on Modern Nuclear Magnetic Resonance" organizat de Fundația Culturală Română și Academia Română
- **1997** iulie, Iași: cursurile francofone de la Școala de Vară "Glycobiologie et glycotecnologies" organizate de Universitatea "Alexandru Ioan Cuza" din Iași, de Serviciile Culturale, Științifice și de Cooperare a Ambasadei Franței în România și de Université des Sciences et Technologies de Lille, Franța
- **2006** July, Iași: Summer School «Physics and chemistry of the atmosphere: from laboratory experiments to field campaigns», Organizers: "Alexandru Ioan Cuza" University of Iasi, Romania; ARCUS Program French Ministry of Foreign Affairs Nord/Pas-de-Calais Region, France; "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania; Regional Agency for the Environmental Protection, Iasi, Romania
- **2015** June; 8th Summer School: Actinide Science & Applications, Karlsruhe, Germany

MEMBRU ÎN SOCIETĂȚI ȘTIINȚIFICE

Membru al Societății Române de Chimie,

LIMBI STRĂINE CUNOSCUTE

Engleză

august 2025

Conf.dr. Ionel Humelnicu

Publicații științifice

1. C. Ghirvu, M. Constantinescu, **I. Humelnicu**, Some Investigations on the Reactions of Ethylene and Acetylene with Hydrogen Atom, *An. St. Univ. "Al.I. Cuza" Iași*, Tom II, s. Chimie, 25-32 (1994).
2. C. Ghirvu, M. Constantinescu, **I. Humelnicu**, Some Investigations on the Reactions of Ethylene and Acetylene with Methyl Radical, *An. St. Univ. "Al.I. Cuza" Iași*, Tomul III, Sc.I, Chimie, 5-12 (1995).
3. **I. Humelnicu**, Iuliana Ghirvu, M. Constantinescu, C. Ghirvu, The ESR Study of the Interaction Between the α,α' -diphenyl- β - Picrylhydrazyl Radical and 8-hydroxyquinoline in Benzene Solutions, *An. St. Univ. "Al.I. Cuza" Iași*, Tom IV, Sc.I, Chimie, 13-18 (1996).
4. I. Mangalagiu, I. Druță, M. Constantinescu, **I. Humelnicu**, Magda Petrovanu, Pyridazinium Ylides. Regiochemistry, *Tetrahedron*, (1996) **52** (26), 8853-8862.
5. St. Dima, I. Mangalagiu, Maria Caprosu, M. Constantinescu, **I. Humelnicu**, Magda Petrovanu, The regiochemistry of the cycloaddition of 1-methylphthalazinium ylides to non-symmetrically substituted olefins, *J. Serb. Chem. Soc.*, **62**(2), 105-111 (1997).
6. Iuliana Voicu, **I. Humelnicu** and C. Ghirvu, Theoretical investigation of the electronic spectra of some N-heteroaromatic molecules, *An. Șt. Univ. "Al.I. Cuza" Iași*, s. Chimie, tom V, 5-12 (1997).
7. **I. Humelnicu**, I. Crețescu, C. Ghirvu and M. Macoveanu, A quantum chemical study for oxidation of some benzene aminoderivatives, *An. Șt. Univ. "Al.I. Cuza" Iași*, VI, s. Chimie, 65-76 (1998).
8. I. Druță, Rodica Dinică, Elena Băcu and **I. Humelnicu**, Synthesis of 7,7'-Bisindolizines by the Reaction of 4,4'-Bipyridinium-Ylides with Activated Alkynes, *Tetrahedron*, **54**, 10811-10818 (1998).
9. T. Rugină, C. Ghirvu, I. Humelnicu and M. Constantinescu, Comportamentul suprafețelor de siliciu în timpul chemosorbției unor gaze II. Chemosorbția pe suprafețe de tip intrinsec, *Rev. Chim. (București)*, **49**, nr. 12, 837-845 (1998).
10. I. Crețescu, **I. Humelnicu**, C. Ghirvu and M. Macoveanu, Theoretical investigations on the synthesis of some N, N –dialkyl- p –phenyldiamines, *An. Șt. Univ. "Al.I. Cuza" Iași*, VII, s. Chimie, 227-230 (1999).
11. N. Aelenei, D. Bontea et **I. Humelnicu**, Viscosity – temperature relationship for silylcelluloses/o-xylene dilute solutions, *An. St. Univ. "Al.I. Cuza" Iași*, seria Chimie, tom VII, (1) 21-30 (1999).
12. Șt. Dima, I. Mangalagiu, Maria Caproșu, **I. Humelnicu**, Mihaela Roman et Magda Petrovanu, L'action des 1-méthyl-phthalazinium ylures sur les hétérocumulènes, *An. St. Univ. "Al.I. Cuza" Iași*, Tomul VII, Sc. I, Chimie, 131-136 (1999).

13. Geanina Mangalagiu, I. Mangalagiu, **I. Humelnicu** and Magda Petrovanu, 4-Methylpyrimidinium Ylides, *Eur. J. Org. Chem.*, **3**, 703-706 (1999).
14. C. Ghirvu, Iuliana Voicu and **I. Humelnicu**, Observation Concerning the Number of Inequivalent, Irreducible Representations of a Molecular Symmetry Point Group, *An. St. Univ. "Al.I. Cuza" Iasi*, s. Chimie, **VIII-2**, 281-287 (2000).
15. Gh. Nemțoi, Camelia Beldie, Carmen Tîrcolea, Iuliana Popa, I. Crețescu, **I. Humelnicu**, Doina Humelnicu, Behavior of the poly(maleic anhydride-co-vinyl acetate) copolymer in aqueous solutions, *European Polymer Journal*, **37** (4), 729-735 (2001).
16. **I. Humelnicu**, V. Melnig, and Dana Dorohoi, „Spectral and Theoretical Studies of Carbanion Monosubstituted Pyridazinum Ylid Dimerization in Ethanol Solutions”, *An. St. Univ. "Al.I. Cuza" Iasi*, s. Chimie, **X-2**, 227-236 (2002).
17. V. Melnig, **I. Humelnicu** and Dana Dorohoi, „Structural features of 3+3 Thermal Dimerization of 3-(p-bromo-phenyl)-pyridazinum methylid in Solutions”, *An. St. Univ. "Al.I. Cuza" Iași*, s. Ib, Fizică, tom **XLVIII**, s. Fizica plasmei si spectroscopie, 61-69 (2002).
18. **I. Humelnicu**, M. Constantinescu, Iuliana Voicu and C. Ghirvu, „On the Interaction Between the H Atom and HCl Molecule”, *Revue Roumaine de Chimie*, vol.**47** nr.8-9, 817-823 (2002).
19. A. Vlahovici, **I. Humelnicu**, “Experimental and Theoretical Study of Fluorescent Compounds Obtained by Photochemical Reactions Between 6-bromo Derivatives of 2,3-diphenylbenzo[b]furan and phenantrobenzo[b]furan with Aniline”, *An. Șt. Univ. "Al. I. Cuza" Iași*, Tomul **XLVIII**, s. Fizica plasmei si spectroscopie, 99-111 (2002).
20. L. Cires, V. Botomei, **I. Humelnicu**, H. Ofenberg, R. Neier, „An Efficient Synthesis of 10-substituted benzo[β]phenantro[9,10-d]furans”, *Revue Roumaine de Chimie*, vol.**48**, nr.1, 33-37 (2003).
21. D. Bontea, M. Gașpar, **I. Humelnicu**, N. Aelenei, D. Ionescu, „Thermogravimetric analysis of some silylcellulose derivatives”, *Cell. Chem. and Technol*, **37** nr. 1-2, 35-41 (2003).
22. C. Ghirvu, I. Voicu and **I. Humelnicu**, “Some Considerations Concerning the Derivation of the Hartree-Fock Equations”, *An. St. Univ. "Al.I. Cuza" Iasi*, s. Chimie, **XI**, 81-87 (2003).
23. C. Ghirvu, I. Voicu and **I. Humelnicu**, „On the Time Evolution of the Density Operator”, *An. St. Univ. "Al.I. Cuza" Iasi*, s. Chimie, **XI**, 89-96 (2003).
24. D. Humelnicu, D.G. Cozma, **I. Humelnicu**, „Studiul sistemului UO_2^{2+} - acid 4-amino-naftalen 1,5 - disulfonic (ANDS) în soluție”, *Rev. Chim. Bucharest*, **54**, nr. 9, 759-762 (2003).
25. N. Heße, R. Fröhlich, **I. Humelnicu** and E-U Würthwein, „1,3,5-Triazapentadienes as Chelating Ligands: 1,2,4-Triphenyl-1,3,5-triazapentadiene Complexes of Cobalt(II), Nickel(II), Palladium(II), Copper(II) and Zinc(II)”, *Eur. J. Inorg. Chem.* **11**, 2189–2197 (2005) ISSN: 1099-0682

26. A. Onu and **I. Humelnicu**, „Thermodynamic study of the iodine-iodide-triiodide equilibrium in water”, *An. St. Univ. “Al.I. Cuza” Iasi, s. Chimie*, **XIII**, 5 (2005).
27. D. Dîrţu, **I. Humelnicu** and L. Odochian, „Contributions to the mechanism of ammonia thermal decomposition III”, *An. St. Univ. “Al.I. Cuza” Iasi, s. Chimie*, **XIII**, 19 (2005).
28. D. Humelnicu, **I. Humelnicu** and D.G. Cozma, “Study of the UO_2^{2+} - acid-2-amino-1-naphtalen sulphonic (ANS) System in Solution”, *Revue Roumaine de Chimie*, **51**(2), 109-115 (2006).
29. D. Dîrţu, L. Odochian, A. Pui and **I. Humelnicu**, „Thermal decomposition of ammonia. N_2H_4 - an intermediate reaction product”, *Central European Journal of Chemistry*, **4**(4), 666 - 673 (2006).
30. C. Ghirvu, **I. Humelnicu**, „Considerations concerning the group and semi group. Properties of the evolution operators”, *An. St. Univ. “Al.I. Cuza” Iasi, s. Chimie*, **XV**, nr. 1, 7 - 14 (2007).
31. E. Filip, **I. Humelnicu** and C. Ghirvu, „Studies on the 1,1-diphenyl-2-picrylhydrazyl (DPPH) in water-ethanol systems”, *An. St. Univ. “Al.I. Cuza” Iasi, s. Chimie*, **XV**, nr. 1, 15 (2007).
32. V. Melnig, **I. Humelnicu** and D. Dorohoi, „Thermal dimerization kinetics of 3-(p-bromophenyl)-pyridazinium benzoyl methylid in solutions”, *International Journal of Chemical Kinetics* **40** (5), 230-239 (2008).
33. A. Pui, Doina Humelnicu, **I. Humelnicu**, C. Tănase, „Synthesis of some complexes of dioxouranium(VI) with di-halogeno-tetra-methyl salen ligands”, *Revue Roumaine de Chimie*, **53**(3), 177-182 (2008).
34. M. Dimitriu, E. Filip, **I. Humelnicu**, „Theoretical Study of some benzene derivatives in water”, *Rev. Chim. Bucharest*, **59** (9), 1009-1013 (2008).
35. E. Filip, **I. Humelnicu**, C. Ghirvu, „Computer Simulations and Experimental Investigations on the UV-VIS Electronic Spectra of the DPPH Radical”, *The Annals of the “Dunărea de jos” University of Galaţi Mathematics, Physics, Chemistry, Informatics Fascicle II, Supplement, Year II (XXXI)* 200-207 (2008).
36. M. Dimitriu, E. Filip, D.O. Dorohoi, **I. Humelnicu**, “The Solvent Influence of Some Substituted Phenols Structures”, *The Annals of the “Dunărea de jos” University of Galaţi Mathematics, Physics, Chemistry, Informatics Fascicle II, Supplement, Year II (XXXI)* 120-124 (2008).
37. F. Cimpoeşu, Marilena Ferbinţeanu, Adela Mihai, **I. Humelnicu**, „The Symmetry Blueprints of the Molecular Edifices”, special issue “*Symmetry in Nanostructures*” of the journal *Symmetry: Culture and Science*, ISSN 0865-4824, Vol. **19**, No. 4, 397-414 (2008).
38. Josette Weinberg, F. Cimpoesu, D. Lerner and **I. Humelnicu**, „The Association of Dehydro-Epiandrosterone and Adenosine Triphosphate Acid. A DFT Study of Interactions between Prototypic Biologically Active Molecules” *Journal of Molecular Structure: THEOCHEM*, **912** (1-3) 32-37 (2009).
39. Elena M. Filip, **I.V. Humelnicu** and C.I. Ghirvu, „Some aspects of 8-hydroxyquinoline in solvents”, *Acta Chem Iasi*, **XVII**, nr. 1, 85-96 (2009).

40. Elena Filip, Mihaela Dimitriu, Dana-Ortansa Dorohoi, **I. Humelnicu**, „Structure and Stability of Some Aromatics Derivatives in Water-Ethanol Mixtures”, *Buletinul Institutului Politehnic Iași, Secția Matematică, Mecanică Teoretică, Fizică*, (2009) **LV(LIX)**, 2, 109-116;
41. C. Nadejde, D.E. Creanga, **I. Humelnicu**, E. Filip, D.O. Dorohoi, ”Study on the Intermolecular Interactions in Rifampicin Ternary Solutions – Calculation of Microscopic Parameters of Rifampicin Molecules”, *Journal of Molecular Liquids*; (2009) **150** (1-3) 51-55
42. R.I. Olariu, Doina Humelnicu, I. Sandu, **I. Humelnicu**, Cecilia Arsene, „Physico-Chemical Characterization of a New Silica-Polyoxometalate Thermally Modified Unit”, *Rev. Chim. Bucharest*, (2009) **60**, Nr. 11, 1216-1219.
43. Doina Humelnicu, R.-I. Olariu, Cecilia Arsene and **I. Humelnicu**, “New isopolyoxomolybdates derived from heptamolybdate with UO_2^{2+} and Th^{4+} ions”, *Ovidius University Annals of Chemistry*, (2009) **20**, 2, 227-231
44. Doina Humelnicu, R.-I. Olariu, I. Sandu, **I. Humelnicu**, A.V. Sandu, Cecilia Arsene, “Studies on Chemical Interferences on Uranium (VI) and Thorium (IV) Reaction with (iso)polyoxometalates” *Rev. Chim. Bucharest*, (2009) **60**, Nr. 12, 1264-1269.
45. Doina Humelnicu, Cecilia Arsene, Bety Burghel, Mihaela Bertescu, **I. Humelnicu**, I. Sandu, Dorina Mantu, R.-I. Olariu, “Interaction of Actinide Cations with Heteropolyoxotungstate Ions $[\text{SiW}_{11}\text{O}_{39}]^{8-}$ and $[\text{SiW}_{12}\text{O}_{40}]^{4-}$ ”, *Rev. Chim. (Bucharest)*, (2010) **61**, Nr. 9, 841-844
46. Lucia Odochian, Lorela Iancu, **I. Humelnicu**, Anca Mihaela Mocanu, Adriana Băiceanu, „Contributions to the reaction mechanism of photochemical decomposition of hydrogen peroxide in aqueous solution”, *Rev. Chim. (Bucharest)*, (2011) **62**, No. 10, 1012-1016
47. **I. Humelnicu**, E-U Würthwein, G. Haufe, „The Conformers of 3-Fluoroalanine. A Theoretical Study Influence of a Fluorine Substituent on the Physicochemical Properties and Chemical Reactivity of Fluorinated Amino Acids. Part 1”, *Organic & Biomolecular Chemistry*, (2012) **10** (10), 2084-2093
48. C. Oprea, P. Panait, F. Cimpoeșu, **I. Humelnicu**, Marilena Ferbințeanu, M. Gîrțu, „Broken symmetry DFT calculations of exchange coupling constants for manganese-porphyrin quasi-one-dimensional molecular magnets”, *Theoretical Chemistry Accounts: Theory, Computation, and Modeling (Theoretica Chimica Acta)*, *Theor Chem Acc* (2012) **131** (7) 1249-1261.
49. D. Maftעי, Gh. Zbancioc, **I. Humelnicu**, I. Mangalagiu “Conformational Effects on the Lowest Excited States of Benzoyl-Pyrrolopyridazine. Insights from PCM Time- Dependent DFT” *The Journal of Physical ChemistryA*, (2013) **117** (15) pp 3165–3175.
50. I.-C. Popescu Hoștuc, F. Petru, D. Humelnicu, **I. Humelnicu**, Th. B. Scott, R. A. Crane „Removal of uranium (VI) from aqueous systems by nanoscale zero-valent iron particles suspended in carboxy-methyl cellulose” *Journal of Nuclear Materials*, (2013) **443** (1-3), 250-255.

51. I.-C. Popescu (Hoştuc), F. Petru, **I. Humelnicu**, M. Mateescu, E. Militaru, D. Humelnicu - „Removal of uranyl ions by p-hexasulfonated calyx[6]arene acid”, *J. Nucl. Mater.*, **453** (2014) 75-81
52. Gh. Zbancioc, C. Moldoveanu, A.M. Zbancioc, **I. Humelnicu** and I. Mangalagiu, „New Insights Concerning Microwave Mechanism in Cycloaddition Reactions: Thermal Heating Versus Specific Effects of Microwave”, *Revue Roumaine de Chimie*, 61(4-5), **2016**, 441-444
53. Gh. Zbancioc, C. Moldoveanu, **I. Humelnicu**, Violeta Vasilache, I. Mangalagiu, „Pyridine / Quinoline Derivatives Bearing a Imidazole / Benzimidazole Moiety. A LC-MS approach of structure determination”, *Rev.Chim.(Bucharest)*, **67** (8) 1516-1519, **2016**
54. V. Antoci, **I. Humelnicu**, V. Vasilache, D. Mantu, „Synthesis, Structure and Biological Activity of Some Hybrid Benzimidazole / Quinoline Derivatives” *Rev.Chim.(Bucharest)*, **67**, 9, 1713-1716, **2016**
55. **I. Humelnicu**, Adriana Baiceanu, Maurusa-Elena Ignat, Viorica Dulman, „The Removal of Basic Blue 41 Textile Dye from Aqueous Solution by Adsorption onto Natural Zeolitic Tuff: Kinetics and Thermodynamics”, *Process Safety and Environmental Protection* **2017** (105) 274–287
56. **I. Humelnicu**, Violeta Vasilache, „Synthesis and Structure of a New Class of Fused Heterocycle with 8,9-Dihydro-pyridazino[1,2,4]triazine Skeleton” *Rev.Chim. (Bucharest)* **68** (6) 1159-1162, **2017**
57. Ferbinteanu M, Stroppa A, Scarrozza M, **Humelnicu I**, Maftai D, Frecus B, Cimpoesu F, „On The Density Functional Theory Treatment of Lanthanide Coordination Compounds: A Comparative Study in a Series of Cu-Ln (Ln = Gd, Tb, Lu) Binuclear Complexes.”, *Inorg Chem.* **2017** Aug 21; **56**(16), 9474-9485
58. I. Ungureanu, Gh. Duca, **I. Humelnicu**, G. Bourceanu, „The Possibility of Ce³⁺ and Mn²⁺ Complex Ions Formation with Iodine Species in a Dushman Reaction” *Chemistry Journal of Moldova. General, Industrial and Ecological Chemistry* **2018** DOI: dx.doi.org/10.19261/cjm.2017.464
59. Affoué Lucie Bédé, Amon Benjamine Assoma, El Hadji Sawaliho Bamba, Maftai Dan, **Ionel Humelnicu**, Plasmodium Resistance to Antimalarial Drugs: Functional Theory of Density (DFT) Study of the Stability and Reactivity of Heme-Artemisinin Adducts, *Journal of Materials Physics and Chemistry*, **2018**, Vol. 6, No. 1, 17-22
60. Monica Jureschi, **Ionel Humelnicu**, Petre Brindusa Alina, Catalina Ciobanu, Manuela Murariu, Gabi Drochioiu, Solid phase synthesis of four analogs of amyloid-beta(9-16) peptide: MS and FT-IR characterization, *Revue Roumaine de Chimie*, **2019** 64(5):433-443 DOI: 10.33224/rch/2019.64.5.07
61. Ancuța-Veronica Lupaescu, Cătălina-Ionica Ciobanu, **Ionel Humelnicu**, Brîndușa Alina Petre, Manuela Murariu and Gabi Drochioiu, Design and Synthesis of New Anti-Amyloid Nap-Based/Like Peptides, *Revue Roumaine de Chimie*, **2019**, 64(6), 535-546 DOI: 10.33224/rch/2019.64.6.10

62. Doina Humelnicu, L.V. Soroaga, Cecilia Arsene, **I. Humelnicu** and R.I. Olariu, Adsorptive Performance of Soy Bran and Mustard Husk Towards Arsenic (V) Ions from Synthetic Aqueous Solutions, *Acta Chim. Slov.* **2019**, 66, 326–336 DOI: 10.17344/acsi.2018.4821
63. D.L. Isac, A. Airinei, D. Maftai, **I. Humelnicu**, F. Mocci, A. Laaksonen, M. Pinteala, On the Charge-Transfer Excitations in Azobenzene Maleimide Compounds. A Theoretical Study, *J. Phys. Chem. A* **2019**, 123, 5525–5536 <https://doi.org/10.1021/acs.jpca.9b02082>
64. Lupaescu, A.-V., **Humelnicu, I.**, Petre, B.A., Ciobanu, C.-I., Drochioiu, G., Direct evidence for binding of aluminum to NAP anti-amyloid peptide and its analogs, *European Journal of Mass Spectrometry*, **2019**, Article in Press, DOI: 10.1177/1469066719877714
65. Humelnicu, D., Pui, A., Maluțan, C., Maluțan, T., Humelnicu, I., Synthesis, characterization and theoretical investigations of new uranium (VI) and thorium (IV) complexes with 1-furfurylaldehyde-derived Schiff bases as ligands, *Journal of Saudi Chemical Society* **2020** DOI: 10.1016/j.jscs.2020.04.001
66. Inga Zinicovscaia, Nikita Yushin, Dmitrii Grozdov, **Ionel Humelnicu**, Doina Humelnicu, Tatiana Mitina,
Removal of chromium (III) ions from aqueous solutions using different types of hydroxyapatites, *Desalination and Water Treatment*, **2020**, 204, Pages: 297-305
doi: 10.5004/dwt.2020.26267
67. Zinicovscaia Inga, Yushin Nikita, Abdusamadzoda Dater, Grozdov Dmitrii, **Humelnicu Ionel**, Ignat Maria, Humelnicu Doina,
Removal of Vanadium Ions From Aqueous Solutions Using Different Type of Hydroxyapatites: Adsorption Isotherm, Kinetics and Thermodynamic Studies
Environmental Engineering and Management Journal **2021**, Volume 20, (6), Page 871-881
68. Maria C. Buta, Bogdan Frecus, Mirela Enache, **Ionel Humelnicu**, Ana M. Toader and Fanică Cimpoeșu
Intra- and Inter-Molecular Spin Coupling in Phenalenyl Dimeric Systems,
J. Phys. Chem. A **2021**, 125 (32), 6893–6901 <https://doi.org/10.1021/acs.jpca.1c02705>
69. Inga Zinicovscaia, Nikita Yushin, Doina Humelnicu, Dmitrii Grozdov, Maria Ignat, Stefan Demcak and **Ionel Humelnicu**
Sorption of Ce(III) by Silica SBA-15 and Titanosilicate ETS-10 from Aqueous Solution
Water **2021**, 13(22), 3263 <https://doi.org/10.3390/w13223263>
70. Doina Humelnicu, Inga Zinicovscaia, **Ionel Humelnicu** and Maria Ignat
Experimental Studies on the Removal of Aluminium Ions from Synthetic Aqueous Solution by Hydroxyapatites
Acta Chimica Slovenica, **2021**, 68 (4), 821 – 832 <http://dx.doi.org/10.17344/acsi.2021.6830>
71. Doina Humelnicu, Inga Zinicovscaia, **Ionel Humelnicu**, Maria Ignat, Nikita Yushin, d Dmitrii Grozdov
Study on the SBA-15 Silica and ETS-10 Titanosilicate as Efficient Adsorbents for Cu(II) Removal from Aqueous Solution
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