



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Rodica Zăvoianu (Rodica Stănescu 1987-1995)**  
Address(es) 93-97, Bd. Bucurestii Noi, 012356, Bucharest, Romania  
Telephone(s) +40216672406 Mobile: +40746171699  
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E-mail rodicazavoianu@gmail.com  
Nationality Romanian  
Date of birth 04/03/1962  
Gender Female

### Desired employment / Occupational field

#### Work experience

Dates	<b>2003-present</b>
Occupation or position held	<b>Associated Professor</b>
Main activities and responsibilities	in charge of bachelor courses of Reactivity of Organic Compounds, Single Function Organic Compounds, Chemical Technology, Processes and Operations in biotechnology, Supramolecular Catalysis as well as master courses such as: Mechanism of Heterogeneous Catalysis, Catalysis by Organometallic Complexes, Selectivity Effects in Catalysis and Ecologic Fuels. Fundamental research in catalysts preparation, total and selective oxidation reactions, green chemist
Name and address of employer	University of Bucharest, Faculty of Chemistry, Romania
Type of business or sector	Education and Academic research
Dates	<b>1995-2003</b>
Occupation or position held	<b>Lecturer (Auxiliary professor)</b>
Main activities and responsibilities	in charge of bachelor courses "Processes and Mechanisms in Catalysis", "Chemical Technology" (in French) supervising practical classes and developing experiments for instructional laboratory of Processes and Mechanisms in Catalysis, Chemical Technology (in French) and Elements of Heterogeneous Catalysis. Fundamental research in catalysts preparation, aromatization of light hydrocarbons, dimerization of light olefins, total and selective oxidation reactions.
Name and address of employer	University of Bucharest, Faculty of Chemistry, Romania
Type of business or sector	Education and Academic research
Dates	<b>1990-1995</b>
Occupation or position held	Assistant professor

Main activities and responsibilities	in charge of practical courses and developing experiments for instructional laboratory of Chemical Technology and Elements of Heterogeneous Catalysis. Fundamental research in catalysts preparation, aromatization of light hydrocarbons
Name and address of employer	University of Bucharest, Faculty of Chemistry, Romania
Type of business or sector	Education and Academic research
Dates	<b>1987-1990</b>
Occupation or position held	<b>Research assistant (debutant engineer)</b>
Main activities and responsibilities	Experimental research concerning the manufacture of aniline, diphenylamine, acetanilide, gas chromatographic analysis
Name and address of employer	ICECHIM Bucharest, 202 Spl. Independentei, S6, Bucharest, Romania
Type of business or sector	Research
Dates	<b>1985-1987</b>
Occupation or position held	<b>Debutant engineer</b>
Main activities and responsibilities	In charge of chemical and physico-chemical analyses in the Department of Quality Control, analysis by UV-Vis and AAS spectrometry, potentiometric analyses for the determination of S and water in naphta gasoline, characterisation of fuels by PONA method
Name and address of employer	Midia Petrochemical Plant, Năvodari, Constanta, Romania
Type of business or sector	Industry
<b>Education and training</b>	
Dates	<b>09/1990- 09/1998</b>
Title of qualification awarded	PhD degree (public defense September 1998, diploma <b>R 0003664/1999</b> )
Principal subjects/occupational skills covered	Title of the thesis: <b>"CONVERSION OF LIGHT OLEFINS OVER MODIFIED HZSM-5 ZEOLITES"</b> Modifications of HZSM-5 zeolites with different transition metal cations, physicochemical characterization of the solid: X ray diffraction, FTIR Spectroscopy, BET, Electron Microscopy, determination of acid sites by NH <sub>3</sub> TPD. Chemical analysis of the reaction products by gas chromatography.
Name and type of organisation providing education and training	University of Bucharest, Faculty of Chemistry, Romania
Level in national or international classification	First category
Dates	<b>09/1980- 07/1985</b>
Title of qualification awarded	Chemical Engineer diploma specialisation – Petrochemistry
Principal subjects/occupational skills covered	Title of the dissertation: <b>"CONVERSION OF METHANOL INTO AROMATIC HYDROCARBONS OVER Ga-HZSM-5 ZEOLITE"</b> Modifications of HZSM-5 zeolites with Ga, Chemical analysis of the reaction products by gas chromatography

Name and type of organisation providing education and training | Polytechnic Institute of Bucharest, Faculty of Chemical Engineering

Level in national or international classification | First degree

**Personal skills and competences**

Mother tongue(s) | **Romanian**

Other language(s) | **English, French, Portuguese**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
A2	elementary	A2	elementary	A2	elemnentary	A2	elementary	A1	beginner

Self-assessment

European level (\*)

**English**

**French**

**Portuguese**

(\*) [Common European Framework of Reference for Languages](#)

Social skills and competences | Versatile and efficient either as a team member or on independent assignments  
Good communication skills  
Good adaptability

Organisational skills and competences | **2003-2007** Member of the **Faculty of Chemistry Council**  
**2003-present** Schedule Manager for the Education Activities in the Faculty of Chemistry  
**2000-2004** Member of the board of the **Romanian Catalysis Society**,  
**2001-2005** Secretary of the journal Progress in Catalysis (the Journal of the Romanian Catalysis Society)

Technical skills and competences | a) Teaching using multimedia tools  
-b) Other practical skills in fields like: computers, mechanical equipment, thermo-mechanical processes, materials, science:

- Preparation of inorganic nanomaterials
- Investigation of catalytic reactions in batch and in flow systems
- Analytical methods: GC, FTIR, UV-Vis spectrometry,
- Determination of surface and bulk properties: NH3 and CO2-TPD, determination of base sites by selective adsorption of probe molecules with different pKa values

Computer skills and competences | Experimented user of several computer programs: Microsoft word, excel, powerpoint, Origin

Other skills and competences

Majors achievements

**Projects:**

- **8 national projects** - as project manager or responsible on behalf of the University of Bucharest in the last 10 years
  - PNIII Contract 646PED/2022 DUACTIONMER – Project Manager
  - PNII Partneriate Contract 78/2014 WATOPREM - Project Manager
  - PNII Partnership Project 32-159/2008-2011 MOLVALNR -Responsible P2
  - PNII Partnership Project 71-043/2007-2010 ECOPAM – Project Manager
  - CEEX Grant no. 2CEEX-6D11-104-Ad.1/2006-2008, Nanostructured oxide materials with drug release properties (OXTRANS) – Scientific responsible P4
  - Grant CNCSIS type A Code CNCS- 1117 (2004-2006) Complexes of iron, cobalt and nickel encapsulated in porous matrices new multifunctional catalytic systems active in the dimerization of alkenes and the hydrogenation of vinyl-aromatics – Project Manager
  - CERES 3-106/2003-2004 “Superior valorisation of hydrocarbons by obtaining intermediates for fine organic synthesis using oxydehydrogenation and metathesis processes catalysed by catalytic active compositions based on mixed oxides – Project Manager
- **27 national research projects** – as team member
- **2 research contracts with direct beneficiary**

**Publications:**

- 2 books
- 4 book chapters
- 70 ISI articles
- 13 full length articles in proceedings at international manifestations
- 15 full length papers in non-ISI Journals

**Communications:**

- 100 at international manifestations
- 20 at national scientific manifestations

Driving licence

Yes Category B since 1993

**Additional information**

**Postdoctoral stages:**

- **postdoctoral fellowship** obtained through competition PRAXIS XXI financed by the Portuguese foundation for Science and Technology (BPD BPD-16396/98) - Technical University of Lisbon, IST, ICEMS-GRECAT, supervisor Prof. dr. M.F. Portela, subject: oxidative dehydrogenation of isobutane
- postdoctoral researcher at Technical University of Lisbon, IST, ICEMS-GRECAT – 2001 – project FJ05/2001 supervisor Prof. Rui Almeida, subject: Characterisation of supported nickel molybdate materials

**Reviewer** for: Rev. Chimie – Bucuresti, Applied Catalysis A:General din martie 2005, Catalysis book series (the Royal Society of Chemistry - Cambridge, UK) in 2006; Applied Catalysis B. Environmental din dec. 2007, Journal of Molecular Catalysis A:Chemical din 2008, Industrial & Engineering Chemistry Research – Journal of the American Chemical Society 2010, Catalysis Communications since 2010.; Catalysis Letters in 2011, Applied Clay Science since 2014, Crystals since 2020, Materials since 2020, Catalysts since 2020, Journal of Hazardous Materials since 2020, International Journal of Hydrogen since 2020, Nanomaterials since 2020, Environmental Science and Pollution Research since 2020, Springer Nature Applied Sciences since 2020, Polymers since 2021, Molecules since 2021, Corrosion and Materials Degradation since 2021, International Journal of Molecular Sciences since 2021, Solids since 2021, Water since 2021, Topics in Catalysis since 2021,

**Evaluator Expert CNCSIS** comission 2 in 2006, 2007ş UEFISCDI – PNII-RU-TE 2015, UEFISCDI – PNIII: PNIII-PD-2020, PN-III-P1-1.2-PCCDI-2017, PN-III-P1-1.1-PD-2016, PN-III-P1-1.1-TE-2016

**Member in the research teams cooperating** with Universite Pierre et Marie Curie - Paris 6, and with Universidade Tecnica de Lisboa, Instituto Superior Tecnico – GRECAT

**Annexes**

List of publications and patents

Date 8.12.2022

**List of publications and patents**  
**ISI publications**

#	Authors	Title	Year	Journal	Q	IF	Vol.	No.	Start Page	End page	DOI
1	Neagu, A.L.; Zaharia, A; Pavel, O.D ; Tirsoaga, A; Neblea, I.E; Dolana, S.V; Tebrencu, C.E; Iordache, T.V; Sârbu, A; <u>Zăvoianu, R</u>	Synergistic Sustained Drug-Release System Based on Immobilized Rhamnus frangula L. Phytoextract into Layered Double Hydroxide Covered by Biocompatible Hydrogel	2023	Pharmaceutics	Q1	<b>5,4</b>	15	7	1888		10.3390/pharmaceutics15071888
2	Pavel, O.D., Stamate, A.E., <u>Zăvoianu, R.</u> , Cruceanu, A., Tîrsoagă, A., Birjega, R, Brezestean, I.A., Ciorîță, A., Culiță, D.C. Dias A.P.S.	Mo-LDH-GO Hybrid Catalysts for Indigo Carmine Advanced Oxidation	2023	Materials	Q2	<b>3,4</b>	16	8	3025		10.3390/ma16083025
3	Stamate, A.E ; Pavel, OD; <u>Zăvoianu, R</u> ; Birjega, R; Neubauer, K; Koeckritz, A; Marcu, I.C	Study of the catalytic properties of MgNi(Cu)Al LDH in the one-pot cascade oxidation-Knoevenagel condensation reaction	2023	Molecular catalysis	Q2	<b>4,6</b>	537		112968		10.1016/j.mcat.2023.112968
4	<u>Zăvoianu, R.</u> Tudorache, M. Pârvulescu, V.I., Cojocar, B., Pavel, O.D.	New MgFeAl-LDH Catalysts for Claisen-Schmidt Condensation	2022	Molecules	Q1	<b>4.927</b>	27	Dec	8391	18	10.3390/molecules27238391
5	Cojocar B.E. , Jurca, B.C., <b>Zăvoianu, R.</b> , Birjega, R., Parvulescu, V.I., Pavel O.D.	Tailored texture synthesized LDH catalysts in the presence of quaternary ammonium salts	2022	Catalysis Communications	Q1	<b>3.51</b>	170	Oct	106485	7	<a href="https://doi.org/10.1016/j.catalcom.2022.106485">10.1016/j.catalcom.2022.106485</a>
6	Kuncser, A.C, Rostas, A., <b>Zăvoianu, R.</b> , Pavel, O.D., Vlaicu I.D., Badea, M., Culiță, D.C., Tirsoaga, A., Olar, R.	Synthesis and Characterization of Hematite-Based Nanocomposites as Promising Catalysts for Indigo Carmine Oxidation	2022	Nanomaterials	Q1	<b>5.719</b>	12	14	2511	17	<a href="https://doi.org/10.3390/nano12142511">10.3390/nano12142511</a>
7	<b>Zăvoianu, R.</b> ; Mihăilă, S.-D.; Cojocar, B.; Tudorache, M.; Pârvulescu, V.I.; Pavel, O.D.; Oikonomopoulos, S.; Jacobsen, E.E.	An Advanced Approach for MgZnAl-LDH Catalysts Synthesis Used in Claisen-Schmidt Condensation	2022	Catalysts	Q2	<b>4.501</b>	12	7	759	16	10.3390/catal12070759
8	<b>Zăvoianu, R.</b> ; Cruceanu, A.; Pavel, O.D.; Bradu, C. ; Florea, M. : Birjega, R.	Green Epoxidation of Olefins with Zn <sub>x</sub> Al/Mg <sub>x</sub> Al-LDH Compounds: Influence of the Chemical Composition	2022	Catalysts	Q2	4.501	12	2	145	18	10.3390/catal12020145
9	Stamate, A.-E.; Pavel, O.D.; <b>Zăvoianu, R.</b> ; Brezestean,	Ce-Containing MgAl-Layered Double Hydroxide-Graphene Oxide Hybrid	2021	Materials	Q2	<b>3.601</b>	14	23	7457	22	10.3390/ma14237457

	I.; Ciorîță, A.; Bîrjega, R.; Neubauer, K.; Koeckritz, A.; Marcu, I.-C.	Materials as Multifunctional Catalysts for Organic Transformations										
10	Stamate, A.-E.; <b>Zăvoianu, R.</b> ; Pavel, O.D.; Bîrjega, R.; Matei, A.; Dumitru, M.; Brezeștean, I.; Osiac, M.; Marcu, I.-C.	The Influence of the Preparation Method on the Physico-Chemical Properties and Catalytic Activities of Ce-Modified LDH Structures Used as Catalysts in Condensation Reactions	2021	Molecules	Q1	<b>4.927</b>	26	20	6191	16	10.3390/molecules26206191	
11	Kuncser, A.C, Vlaicu I.D., Pavel, O.D., <b>Zăvoianu, R.</b> , Badea, M., Radu, D., Culiță, D.C., Rostas, A., Olar, R.	Soft synthesis and characterization of goethite based nanocomposites as promising cyclooctene oxidation catalysts	2021	RSC Advances	Q2	<b>3.361</b>	11		27589	27602	10.1039/d1ra04211d	
12	Baciu, D.D., Bîrjega, R. Mărăscu, V., <b>Zăvoianu, R.</b> , Matei, A., Vlad, A., Cojocaru, A., Visan, T.	Enhanced voltammetric response of monosodium glutamate on screen-printed electrodes modified with NiAl layered double hydroxide films	2021	Surfaces and Interfaces	Q1	<b>3.724</b>	24	June 2021	101055	13	<a href="https://doi.org/10.1016/j.surf.in.2021.101055">10.1016/j.surf.in.2021.101055</a>	
13	Pavel, O.D., Stamate, A.-E. Bacalum, E., Cojocaru, B. <b>Zăvoianu, R.</b> , Pârvulescu V.I.	Catalytic behavior of Li-Al-LDH prepared via mechanochemical and co-precipitation routes for cyanoethylation reaction	2021	Catalysis Today	Q1	<b>6.562</b>	366		227	234	10.1016/j.cattod.2020.06.019	
14	Andrei, F., <b>Zăvoianu, R.</b> , Marcu, I.-C.	Complex Catalytic Materials Based on the Perovskite-Type Structure for Energy and Environmental Applications	2020	Materials	Q2	<b>3.057</b>	13	23	5555		10.3390/ma13235555	
15	Bîrjega, R. Matei, A., Marascu, V., Vlad, A. Ionita M.D., Dinescu, M. <b>Zăvoianu, R.</b> , Corobea M.C.	Stearic Acid/Layered Double Hydroxides Composite Thin Films Deposited by Combined Laser Techniques	2020	Molecules	Q2	<b>3.267</b>	25	18	4097		10.3390/molecules25184097	
16	Pavel, O.D., Stamate A.-E., <b>Zăvoianu, R.</b> , Bucur, I.C. Bîrjega, R., Angelescu, E. Pârvulescu, V.I.	Mechano-chemical versus co-precipitation for the preparation of Y-modified LDHs for cyclohexene oxidation and Claisen-Schmidt condensations	2020	Applied Catalysis A: General	Q2	<b>5.006</b>	605	5 September 2020,	117797		10.1016/j.apcata.2020.117797	
17	Pavel, O.D., Șerban, A., <b>Zăvoianu, R.</b> , Bacalum, E., Bîrjega, R.	Curcumin incorporation into Zn3Al layered double hydroxides—preparation, characterization and curcumin release	2020	Crystals	Q2	<b>2.404</b>	10	4	244		10.3390/cryst10040244	
18	Stamate, A.E., Pavel, O. D. <b>Zăvoianu, R.</b> , Marcu, I. C.	Highlights on the Catalytic Properties of Polyoxometalate-Intercalated Layered Double Hydroxides: A Review	2020	Catalysts	Q2	<b>3.520</b>	10	1	57		10.3390/catal10010057	

19	Teodorescu, F., Slabu, A. Pavel, O.D. <b>Zăvoianu, R.</b>	A comparative study on the catalytic activity of ZnAl, NiAl, and CoAl mixed oxides derived from LDH obtained by mechanochemical method in the synthesis of 2-methylpyrazine	2020	Catalysis Communications	Q2	<b>3.612</b>	133	5 January 2020	105829		10.1016/j.catcom.2019.10.5829
20	Andrei, F., Vlad, A., Birjega, R., Tozar, T., Secuc, M., Urzica, I., Dinescu, M., <b>Zăvoianu R.</b>	Hybrid layered double hydroxides-curcumin thin films deposited via Matrix Assisted Pulsed Laser Evaporation-MAPLE with photoluminescence properties	2019	Applied Surface Science	Q1	<b>5.27</b>	478	1 June 2019	754	761	10.1016/j.apsusc.2019.02.011
21	Cruceanu, A., <b>Zăvoianu, R.</b> , Pavel, O. D., Florea, M., Mara, L.	Alternative valorization of red mud waste as functional materials with catalytic activity for sulfide oxidation in wastewater	2018	International Journal of Environmental Science and Technology	Q2	<b>2.54</b>	15	4	895	908	10.1007/s13762-017-1449
22	<b>Zăvoianu, R.</b> , Birjega, R., Angelescu, E., Pavel O.D.	Effect of hydration temperature on structure reconstruction of Mg-Al-Y layered materials	2018	Comptes Rendus Chimie	Q3	<b>2.223</b>	21	3-4	318	326	10.1016/j.crci.2017.07.002
23	Vlad, A., Birjega, R., Tirca, I., Matei, A., Mardare, C. C., Hassel, A. W., Nedelcea, A., Dinescu, M., <b>Zăvoianu R.</b>	Pulsed laser deposition of functionalized Mg-Al layered double hydroxide thin films	2018	Applied Physics A-Materials Science & Processing	Q3	<b>1.87</b>	124	2	152		10.1007/s0039-018-1583-8
24	Sandu, T., Sârbu, A., <b>Zăvoianu, R.</b> , Spătăreanu, C. P. M. Florea, C. Bradu, E. L. Mara, D. V. Dragut, E. Alexandrescu, A. Zaharia, A.L. Radu,	New ways to use the red mud waste as raw material for inorganic-organic hybrid hydrogels	2017	International Journal of Mineral Processing	Q3	<b>2.688</b>	169	10 December 2017	111	118	10.1016/j.minpro.2017.11.005
25	<b>Zăvoianu, R.</b> , Pavel, O. D., Cruceanu, A., Florea, M., Birjega R.	Functional layered double hydroxides and their catalytic activity for 1,4-addition of n-octanol to 2-propenonitrile	2017	Applied Clay Science	Q2	<b>4.605</b>	146	15 September 2017	411	422	10.1016/j.clay.2017.06.030
26	Pavel, O.D., <b>Zăvoianu, R.</b> , Birjega, R., Angelescu, E., Pârvulescu, V.I.	Mechanochemical versus co-precipitated synthesized lanthanum-doped layered materials for olefin oxidation	2017	Applied Catalysis A:General	Q2	<b>5.006</b>	542	25 July 2017	10	20	10.1016/j.apcata.2017.05.012
27	Birjega, R., Vlad, A., Matei, A., Dumitru, M., Stokker-Cheregi, F., Dinescu, M., <b>Zăvoianu, R.</b> , Raditoiu, V., Corobea, M.C.	Organo-layered double hydroxides composite thin films deposited by laser techniques	2016	Applied Surface Science	Q1	<b>5.27</b>	374	30 June 2016	326	333	10.1016/j.apsusc.2015
28	Pavel O.D, <b>Zăvoianu R</b> , Angelescu E	The effect of modifying cations on the catalytic activity of hydrotalcite-like compounds in 1,4-addition reactions	2016	Revue Roumaine de Chimie	Q4	<b>0.381</b>	61	8-9	671	681	
29	Birjega R., Vlad A., Matei A., Ion V., Luculescu C., Dinescu M., <b>Zăvoianu R</b> ,	Growth and characterization of ternary Ni, Mg-Al and Ni-Al layered double hydroxides thin films deposited by pulsed laser	2016	Thin Solid Films	Q3	<b>1.939</b>	614	1 September	36	41	10.1016/j.tsf.2015.11.066

		deposition,						2016			
30	Vlad A., Birjega R., Matei A., Luculescu C., Nedelcea A, Dinescu M., <b>Zăvoianu, R.</b> , Pavel O. D	Detection of copper ions from aqueous solutions using layered double hydroxides thin films deposited by PLD	2015	Applied Surface Science	Q1	5.27	352	15 October 2015	184	188	10.1016/j.apsusc.2015.02.192
31	Pavel O. D., <b>Zăvoianu R.</b> , Birjega R., Angelescu E., Costentin G., Che M	Exploring an alternative route for meixnerite synthesis. The impact of the gaseous environment on the reconstruction of the lamellar structure and the catalytic performances	2015	Applied Clay Science	Q2	4.605	104	February 2015	59	65	10.1016/j.clay.2014.11.025
32	Vlad, A., Birjega, R., Matei, A., Luculescu, C, Mitu, B., Dinescu, M., <b>Zăvoianu, R.</b> , Pavel, O. D	Retention of heavy metals on layered double hydroxides thin films deposited by pulsed laser deposition	2014	Applied Surface Science	Q1	5.27	302	30 May 2014	99	104	10.1016/j.apsusc.2013.10.181
33	Teodorescu, F., Deaconu, M., Bartha, E., <b>Zăvoianu, R.</b> , Pavel, O. D	Addition of Alcohols to Acrylic Compounds Catalyzed by Mg-Al LDH	2014	Catalysis Letters	Q3	2.482	144	1	117	122	10.1007/s10562-013-1108-1
34	Birjega, R., Matei, A, Mitu, B., Ionita, M.D., Filipescu, M., Stokker-Cheregi, F., Luculescu, C., Dinescu, M., <b>Zăvoianu, R.</b> , Pavel, O.D., Corobea, M.C	Layered double hydroxides/polymer thin films grown by matrix assisted pulsed laser evaporation	2013	Thin Solid Films	Q3	1.939	543	30 September 2013	63	68	10.1016/j.tsf.2013.02.120
35	Birjega, R., Matei, A., Filipescu, M., Stokker-Cheregi, F., Luculescu, C, Colceag, D., <b>Zăvoianu, R.</b> , Pavel, O.D., Dinescu, M,	The investigation of Ni-Al and Co-Al based layered double hydroxides and their derived mixed oxides thin films deposited by pulsed laser deposition	2013	Applied Surface Science	Q1	5.27	278	1 August 2013	122	126	10.1016/j.apsusc.2013.01.017
36	Matei, A.; Birjega, R.; Vlad, A.; Luculescu, C.; Epurescu, G.; Stokker-Cheregi, F.; Dinescu, M.; <b>Zăvoianu, R.</b> ; Pavel, O. D.	Pulsed laser deposition of Mg-Al layered double hydroxide with Ag nanoparticles	2013	Applied Physics A-Materials Science & Processing	Q3	1.87	110	4	841	846	10.1007/s00339-012-7162-5
37	Matei, A. ,Birjega, R.,Vlad, A.,Filipescu, M.,Nedelcea, A.,Luculescu, C., <b>Zăvoianu, R.</b> ,Pavel, O.D.,Dinescu, M.,	Adsorption properties of Mg-Al layered double hydroxides thin films grown by laser based techniques	2012	Applied Surface Science	Q1	5.27	258	23	9466	9470	10.1016/j.apsusc.2011.10.045
38	<b>Zăvoianu, R.</b> , Cruceanu, A., Pavel, O. D., Angelescu, E., Soares Dias, A. P. Birjega, R.	Oxidation of tert-butanethiol with air using Mo-containing hydrotalcite-like compounds and their derived mixed oxides as catalysts	2012	Reaction Kinetics Mechanisms and Catalysis	Q3	1.52	105	1	145	162	10.1007/s1144-011-0398-9
39	Angelescu, E., Pavel, O. D.,	Transition metal coordination polymers	2012	Journal of Molecular	Q2	5.008	352	Janu	21	30	10.1016/j.mol



	Ionescu, R., Bîrjega, R., Badea, M., <b>Zăvoianu, R.</b>	MeX <sub>2</sub> (4,4bipyridine) (Me = Co, Ni, Cu; X = Cl <sup>-</sup> , CH <sub>3</sub> OCO <sup>-</sup> , acetylacetonate) selective catalysts for cyclohexene epoxidation with molecular oxygen and isobutyraldehyde		Catalysis A: Chemical			ary 2012				cata.2011.08.001
40	Mara, L., Dima, S.-O., Sârbu, A., Sârbu, L., <b>Zăvoianu, R.</b> , Taloi, D., Bacalum, F.	Obtaining of Clinoptilolitic Extrudates for Environmental Applications II. Statistical analysis of plasticizer and shear stress effects	2011	Revista de Chimie	Q3	1.755	62	12	1102	1106	<a href="http://www.revistadechimie.ro">http://www.revistadechimie.ro</a>
41	Mara, L., Dima, S.-O., Sârbu, A., Sârbu, L., <b>Zăvoianu, R.</b> , Pavel, O.D., Taloi, D.	Obtaining of Hydrotalcite-based Ceramic Monoliths through Extrusion The investigation of the effect of additives on the rheological behaviour of the ceramic pastes	2011	Revista de Chimie	Q3	1.755	62	10	1017	1022	<a href="http://www.revistadechimie.ro">http://www.revistadechimie.ro</a>
42	Pavel, O.D., <b>Zăvoianu, R.</b> , Bîrjega, R., Angelescu, E.	The effect of ageing step elimination on the memory effect presented by Mg <sub>0.75</sub> Al <sub>0.25</sub> hydrotalcites (HT) and their catalytic activity for cyanoethylation reaction	2011	Catalysis Communications	Q2	3.612	12	10	845	850	10.1016/j.catacom.2011.02.005
43	<b>Zăvoianu, R.</b> , Ionescu, R., Pavel, O.D., Bîrjega, R., Angelescu, E.	Me <sup>II</sup> /Mg/Al hydrotalcites and hydrotalcite-supported Me(II) acetylacetonates (Me(II)=Co, Cu or Ni) catalysts for the epoxidation of cyclohexene with molecular oxygen	2011	Applied Clay Science	Q2	4.605	52	1-2	1	10	10.1016/j.clay.2011.01.014
44	Matei, A., Bîrjega, R., Nedelcea, A., Vlad, A., Colceag, D., Ionita, M.D., Luculescu, C., Dinescu, M., <b>Zăvoianu, R.</b> , Pavel, O.D.	Mg-Al layered double hydroxides (LDHs) and their derived mixed oxides grown by laser techniques	2011	Applied Surface Science	Q1	5.27	257	12	5308	5311	10.1016/j.apsusc.2010.11.051
45	Ionescu, R., Pavel, O.D., Bîrjega, R., <b>Zăvoianu, R.</b> , Angelescu, E.	Epoxidation of Cyclohexene With H <sub>2</sub> O <sub>2</sub> and Acetonitrile Catalyzed by Mg-Al Hydrotalcite and Cobalt Modified Hydrotalcites	2010	Catalysis Letters	Q2	2.482	134	3-4	309	317	10.1007/s10562-009-0238-y
46	Angelescu, E., Ionescu, R., Pavel, O.D., <b>Zăvoianu, R.</b> , Bîrjega, R., Luculescu, C., Florea, M., Olar, R.	Epoxidation of cyclohexene with O <sub>2</sub> and isobutyraldehyde catalysed by cobalt modified hydrotalcites	2010	Journal of Molecular Catalysis A: Chemical	Q2	5.008	315	2	178	186	11.1016/j.molcata.2009.09.009
47	Pavel, O.D., <b>Zăvoianu, R.</b> , Bîrjega, R., Angelescu, E.	.Impact of the memory effect on the catalytic activity of Li-Al hydrotalcite-like compounds for the cyanoethylation reaction	2010	Materials Research Bulletin	Q2	3.37	45	9	1106	1111	10.1016/j.matresbull.2010.06.003
48	Pavel, O.D., Bîrjega, R., Angelescu, E., <b>Zăvoianu, R.</b> , Florea, M., Mitran, G.	Modifications of the Catalytic Activity for Cyanoethylation Induced by the Memory Effect of Mg/Al-Type Modified Hydrotalcites	2010	Revista de Chimie	Q3	1.755	61	4	395	399	
49	Dias, A.P.S., Dimitrov, L.D.,	Oxidative dehydrogenation of butane over	2010	Journal of Non-Crystalline	Q1	1.716	356	28-	1488	1497	10.1016/j.jno

	Oliveira, M.C.R., <b>Zăvoianu, R.</b> , Fernandes, A., Portela, M.F.	substoichiometric magnesium vanadate catalysts prepared by citrate route		Solids				30			ncrysol.2010.04.042
50	Angelescu, E., Pavel, O.D., Bîrjega, R., Florea, M., <b>Zăvoianu, R.</b>	The impact of the "memory effect" on the catalytic activity of Mg/Al; Mg,Zn/Al; Mg/Al,Ga hydrotalcite-like compounds used as catalysts for cyclohexene epoxidation	2008	Applied Catalysis A: General	Q2	5.006	341	1-2	50	57	10.1016/j.apcata.2007.12.022
51	Ropot, M., Angelescu, E., <b>Zăvoianu, R.</b> , Bîrjega, R.	The influence of the preparation of Zr(OH) <sub>4</sub> precursor on the catalytic performances of ZrO <sub>2</sub> /SO <sub>4</sub> <sup>2-</sup> in the isomerization of n-butane	2008	Revista de Chimie	Q3	1.755	59	3	292	296	
52	Angelescu, E., <b>Zăvoianu, R.</b> , Bîrjega, R., Angelescu, A., Pavel, O.D.	Catalytic oxidative demercaptanization on Mg-Al hydrotalcites containing cobalt complex anions	2007	Revista de Chimie	Q3	1.755	58	11	1104	1111	
53	<b>Zăvoianu, R.</b> , Dias, C.R., Soares, A.P.V., Portela, M.F.	Oxidative dehydrogenation of i-butane over nanostructured silica-supported NiMoO <sub>4</sub> catalysts with low content of active phase	2006	Applied Catalysis A: General	Q2	5.006	298	10 January 2006	40	49	10.1016/j.apcata.2005.09.017
54	Angelescu, E., Pavel, O.D., Bîrjega, R., <b>Zăvoianu, R.</b> , Costentin, G., Che, M.	Solid base catalysts obtained from hydrotalcite precursors, for Knoevenagel synthesis of cinamic acid and coumarin derivatives,	2006	Applied Catalysis A: General	Q2	5.006	308	10 July 2006	13	18	10.1016/j.apcata.2006.04.011
55	Angelescu, E., Cruceanu, A., <b>Zăvoianu, R.</b> , Angelescu, A.	Transitional metals sulphonated phtalocyanines, catalysts for the demercaptanization of gasolines	2006	Revista de Chimie	Q3	1.755	57	1	85	90	
56	<b>Zăvoianu, R.</b> , Dias, A.P.V.S., Pavel, O.D., Angelescu, E., Portela, M.F.	1-Octene metathesis on silica supported Zr-doped NiMoO <sub>4</sub> catalysts	2005	Catalysis Communications	Q2	3.612	6	5	321	327	10.1016/j.catacom.2005.01.013
57	<b>Zăvoianu, R.</b> , Bîrjega, R., Pavel, O.D., Cruceanu, A., Alifanti, M.	Hydrotalcite like compounds with low Mo-loading active catalysts for selective oxidation of cyclohexene with hydrogen peroxide	2005	Applied Catalysis A: General	Q2	5.006	286	2	211	220	10.1016/j.apcata.2005.03.009
58	<b>Zăvoianu, R.</b> , Nenu, C., Angelescu, E.	Ni(2,2'-bipyridine)(2)Cl <sub>2</sub> encapsulated in Y zeolite new catalyst for ethylene dimerization	2005	Catalysis Communications	Q2	3.612	6	6	415	420	10.1016/j.catacom.2005.03.007
59	Angelescu, E., Pavel, O.D., <b>Zăvoianu, R.</b> , Bîrjega, R.	Cyanoethylation of ethanol over mixed oxides obtained from hydrotalcite precursors	2004	Revue Roumaine De Chimie	Q4	0.381	49	3-4	367	375	
60	Angelescu, E., Che, M., Andruh, M., <b>Zăvoianu, R.</b> , Costentin, G., Mirică, C., Pavel, O.D.	Ethylene selective dimerization on polymer complex catalyst of Ni(4,4'-bipyridine)Cl <sub>2</sub> coactivated with AlCl(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub>	2004	Journal of Molecular Catalysis A: Chemical	Q2	5.008	219	1	13	19	10.1016/j.molcata.2004.04.037
61	<b>Zăvoianu, R.</b> , Dias,	The influence of the modifications with P, Si	2003	Revista de Chimie	Q3	1.755	54	5	418	423	

	A.P.V.S., Urda, A., Pavel, O.D.	and Ti on the paraselectivity of H-ZSM-5 zeolite									
62	Urda, A., <b>Zăvoianu, R.</b> , Săndulescu, I.	The influence of the raw material nature on the aromatization of C-6 hydrocarbons on Zn/H-ZSM-5 catalysts	2003	Revista de Chimie	Q3	1.755	54	7	619	623	
63	Dias, C.R., <b>Zăvoianu, R.</b> , Portela, M.F.	Isobutane oxydehydrogenation on SiO <sub>2</sub> -supported nickel molybdate catalysts: Effect of the active phase loading,	2002	Catalysis Communications	Q2	3.612	3	2	85	90	10.1016/S1566-7367(02)00053-5
64	<b>Zăvoianu, R.</b> , Dias, C.R., Portela, M.F.	Study of the acid-base properties of SiO <sub>2</sub> -supported NiMoO <sub>4</sub> catalysts by temperature-programmed desorption: Effect of the support	2002	Reaction Kinetics and Catalysis Letters	Q3	1.52	77	2	317	324	10.1023/A:1020840003237
65	<b>Zăvoianu, R.</b> , Dias, C.R., Portela, M.F.	Study of the acid-base properties of SiO <sub>2</sub> -supported NiMoO <sub>4</sub> catalysts by temperature-programmed desorption. Effect of the active phase content,	2001	Reaction Kinetics and Catalysis Letters	Q3	1.52	72	2	201	208	10.1023/A:1010566107189
66	<b>Zăvoianu, R.</b> , Dias, C.R., Portela, M.F.	Stabilisation of β-NiMoO <sub>4</sub> in TiO <sub>2</sub> -supported catalysts	2001	Catalysis Communications	Q2	3.612	2	1	37	42	
67	<b>Zăvoianu, R.</b> , Angelescu, E., Nenu, C., Nastase, N.	Ethylene dimerization on Pd(2,2'-bipyridine)Cl <sub>2</sub> encapsulated in Na(H)Y zeolites	1999	Revue Roumaine De Chimie	Q4	0.381	44	11-12	1101	1106	
68	Angelescu, E., Pop, G., Pogonaru, G., <b>Stănescu, R.</b> , Muscă, G., Părvulescu, V.I.	Conversion of C2-C4 olefins to aromatic-hydrocarbons, catalyzed by HZSM-5 and H-ZSM-5-M2O3 zeolites (M = Ga, La, Y, In, Nd)	1993	Revue Roumaine De Chimie	Q4	0.381	38	4	411	423	
69	Zăvoianu, D., Moga-Gheorghe, S., Cuza, O., <b>Zăvoianu, R.</b>	Hidroliza alcalina a unor nitrili alfa-beta-nesaturati derivati de la benziliden-p-metoxifenilacetoneitril	1986	Revista de Chimie	Q3	1.755	37	2	120	124	
70	Zăvoianu, D., Ciocazanu, I., Moga-Gheorghe, S., Cuza, O., <b>Zăvoianu, R.</b>	Structura si reactivitatea nitrililor. Caldura de combustie si caldura de formare a unor nitrili alfa-beta-nesaturati derivati de la benziliden-p-clorfenilacetoneitril	1985	Revista de Chimie	Q3	1.755	36	12	1099	1101	

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1. **Zăvoianu R.**, Angelescu, E., Nenu, C., Nastase, N., 2000, Selective dimerization of ethylene on Pt organometallic complex encapsulated in Y zeolite - in Heterogeneous Catalysis, L. Petrov, Ch. Bonev, G. Kadinov (Eds.), Institute of Catalysis, Bulgarian Academy of Sciences, Sofia, p. 447-452 (2000)
2. **Zăvoianu R.**, Dias, C.R., Portela, M.F., 2000, Preparation and Characterisation of SiO<sub>2</sub>-Supported NiMoO<sub>4</sub> Catalysts –Heterogeneous Catalysis, L. Petrov, Ch. Bonev, G. Kadinov (Eds.), 2000 Institute of Catalysis, Bulgarian Academy of Sciences, Sofia, p.411-416 (2000)
3. **Zăvoianu R.**, Angelescu, E., Pt-2,2'-bipyridine complex encapsulated in Y zeolite catalysts for ethylene selective dimerization, Stud. Surf.Sci.Catal., vol 135, p. 4031-4038 (2001);
4. **Zăvoianu R.**, Dias, C.R., Portela, M.F., 2001, Influence of the preparation method on the phase composition of NiMoO<sub>4</sub> supported catalysts – CHEMPOR vol. 1, F. Ramoa Ribeiro & J.J.C. Cruz Pinto Eds., p.399-406, (2001)
7. **Zăvoianu R.**, Dias, C.R., Portela, M.F., 2001, Oxidative Dehydrogenation of Isobutane over SiO<sub>2</sub>-Supported NiMoO<sub>4</sub> Catalysts – CHEMPOR vol. 1, F. Ramoa Ribeiro & J.J.C.Cruz Pinto Eds., p.391-397, (2001)
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9. **Zăvoianu, R.**, Cruceanu, A., Pavel, O.D., Mara, L., Velea, T., Bîrjega, R., Alternative valorisation of red mud waste as catalyst for sulphide oxidation in wastewater, in: Yannis Pontikes (Ed.), Faculteit Ingenieurswetenschappen KU Leuven; 01 edition (5 Oct. 2015), ISBN-10: 9460189784, ISBN-13: 978-9460189784,Proceedings of Bauxite Residue Valorisation and Best Practices, Leuven, 5-8 Oct 2015, Leuven, 2015, pp. 219-230.
10. Vlad, A. , Birjega, R., Matei, A., Tirca, I., Dinescu, M., **Zăvoianu R.**, Pavel, O.D., Corobea, M.C., Nanocomposite dodecyl sulfate-modified Mg-Al layered double hydroxide thin films deposited via laser technique (Conference Paper - 10th Annual TechConnect World Innovation Conference and Expo, Held Jointly with the 19th Annual Nanotech Conference and Expo, and the 2016 National SBIR/STTR Conference; Washington; United States; 22 May 2016 through 25 May 2016; Code 122946), Advanced Materials - TechConnect Briefs 2016, 4, (2016) 31-34
11. Moise G., Capotă P., Enache L., Neagu E., Drăguț V., Mihăiescu D., Mara L., Chirea A., **Zăvoianu R.**, Sârbu A., Material composition and properties of red mud coming from domestic alumina processing plant, INTERNATIONAL SYMPOSIUM “THE ENVIRONMENT AND THE INDUSTRY”, SIMI 2017, PROCEEDINGS BOOK , section Pollution Control and Monitoring p. 279-289, DOI 10.21698/simi.2017.0036
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13. Stamate, A.-E, **Zăvoianu, R.**, Pavel, O.D., Cruceanu, A., Corobea, M.C., Osiac, M., Cioatera, N., LDH-GO composites as catalysts for the oxidative removal of indigo carmine dye from wastewater, Proceedings of the 23th International Symposium “The Environment and the Industry”/ SIMI2020, ROMANIAN JOURNAL OF ECOLOGY & ENVIRONMENTAL CHEMISTRY volume 2, number 2, 2020, 6-17, DOI: 10.21698/rjeec.2020.201

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6. Cruceanu, A., **Zăvoianu R.**, Angelescu, E., Catalytic Desulphurisation of Gaseous Streams Containing H<sub>2</sub>S in the Presence of Fe, Co and Cr Chelates Catalysts –Progress in Catalysis, vol. 10 nr. 1-2, p. 27-39, (2001)
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10. **Zăvoianu R.**, Pavel, O.D., Cruceanu, A., Preda, C., Nitu, C.S., Angelescu, E., Characterization of silica supported NiMoO<sub>4</sub> Doped with Ce, Cr and Zr Using Thermodesorption Techniques, – Progress in Catalysis, vol. 12, nr. 2, p. 83 – 92, (2003)
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1. Angelescu, E., Ropot, M., **Zăvoianu R.**, **Cataliza cu complecși organometalici (Catalysis with organometallic complexes) Ed. Ars Docendi, București 2001, 122 pag**
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1. Sandu, T., Zaharia, A., Sârbu, A., **Zăvoianu R.**, Mara, E.L., **Chapter 2 Red Mud Polymer Composites in Red Mud Production, Composition and Impact, Kay Richard Editor, Nova Science Publishers Inc. New York 2018, pp. 31-109. ISBN 978-1-53614-384-3 eBook**
2. **Zăvoianu R.**, Cruceanu, A., Pavel, O.D., Sârbu, A., Sandu, T., Mara, L. **Chapter 4 Environmental Protection Applications of Red Mud, in Red Mud Production, Composition and Impact, Kay Richard Editor, Nova Science Publishers Inc. New York 2018, pp. 123-251. ISBN 978-1-53614-384-3 eBook**
3. Pavel, O.D., **Zăvoianu R.**, **Chapter 3 Selective Addition Reactions of 2-Propenenitrile (Cyanoethylation) in Advances in Chemistry Research. Volume 49, James C. Taylor Editor Nova**
4. **4. A. Matei, R. Birjega, A. A. Vlad, B. Mitu, D. D. Baci, M. Dinescu, R. Zăvoianu, Chapter 10 LDH-interlayered nanostructures for biomedical and environmental applications in FUNCTIONAL NANOSTRUCTURED INTERFACES FOR ENVIRONMENTAL AND BIOMEDICAL APPLICATIONS, V. Dinca & M.P. Suchea Eds., Elsevier, Amsterdam, Netherlands, 2019 pp. 259-284, ISBN 978-0-12-814401-5**

## Patents

1. Procedure for aniline anhydrization Patent Number(s): RO106131-B1; Patent Assignee: Inst. Cerc. Chim. BUCUREȘTI; Inventor(s): L. Sarbu, T. Stoica, I. Voin, R. Stănescu, T.D. Bota. N. Iacoban, D. Nicoara, V. Giurcaneanu, F. Bacalum.
2. "Composites based on hydrotalcite-type compounds and volcanic tuff with clinoptilolite, procedures for their obtaining and use in water treatment", RO 127639 B1/30.10.2013; Inventors: Zavoianu Rodica, Sarbu Liliana, Mara Eleonora Luminita, Ruxandra Birjega, Bolma Aurelia, Cruceanu Anca, Pavel Dumitru Octavian, Bacalum Fanica, Niculescu Cristina, Butko Coloman, Nechita Eleonora  
**Bronze Medal** at INVENTIKA Inventions and Innovations Saloon INVENTIKA 15 - 18 Octombrie 2014, București, Romania
3. Procedure for the treatment of the red mud industrial waste with the utilization of the process waters **RO 128290 B1/27.04.2018**  
Inventors: Sârbu Liliana, Zavoianu Rodica, Mara Eleonora Luminita, Bacalum Fanica, Badilita Viorel, Vladutiu Liana Maria, Georgescu D. Vasile, Cruceanu Anca, Gherghe Sandica Liliana, Bajenaru Irina Gentiana
4. Procedure for the preparation of red mud derived ceramic foams  
Inventors: A. Sârbu, T. Sandu, A. Zaharia, S. Apostol, R. Zavoianu, E. L. Mara, L. Sarbu, F. Bacalum, R. Birjega, S. Vizireanu, A. G. Olaru, D. Cosasu, T. Velea, I. A. Gradinaru, A. L. Radu, M. Florea, B. E. Cojocaru, V. Dragut, T. V. Iordache, A. M. Florea **AA/00317/25.02.2015 - RO131328 B1/ B1/BOPI nr. 4-2019**  
**Silver Medal** at **EUROINVENT Iasi 25-27 Mai 2017** - *Approach for Getting Ceramic Foams Based On Red Mud*, Proceedings of The 9th edition of EUROINVENT European Exhibition of Creativity and Innovation ISBN 978-606-775-212-0
5. Procedure for treatment of high organic loading waters with oxidants-coagulants red mud generated from red mud **RO 133166 B1 /28.02.2022**  
Inventors: **Zăvoianu R.**, Sârbu L., Pavel O. D., Cruceanu A., Bradu C., Olaru E. A., Sârbu A., Sandu T., Bacalum F., Zaharia A., Mara E. L., Birjega R., Cosașu D., Olaru A. G., Marioara C.-M

### Applications for patent:

1. Composition and manufacture procedure of BIOBASED polyamide with improved fire resistance, application for patent a 2021 -00077/25.02.2021 nr 135932A2 clasa C08L77/00; C08K3/016, BOPI 8/30.08.2022  
Inventors: Corobea M.C, Vuluga Z., **Zăvoianu R.**, Pavel O. D., Teodorescu G. M., Afilpoei A., Stamate A. E., Cruceanu A
  2. Biocompatible composite hydrogels containing layered double hydroxides, for the controlled release of the bioactive substances from alder buckthorn phytoextracts and obtaining procedure, A 2023 -00108/07.03.2023.  
Inventors: Sârbu A., Zăvoianu R., Pavel O. D., Zaharia A., Neagu A. L., Jurca A., Tebrencu C., Apreutesei O. T., Dumitru M. V., Sandu T., Iordache T. V.,
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Inventors. Sârbu A., Zăvoianu R., Zaharia A., Pavel O. D., Dumitru M. V., Sandu T., Jurca A., Tebrencu C. E., Stamate A. E., Iordache T. V., Chiriac A. L., Gavrilă A.-M.,
- 8.12.2023.