



REVISTA DE CHIMIE

Chemistry Sciences

Chemical and Biochemical Engineering

Environmental Chemistry and Engineering

Chemistry Application in Food, Nutrition, Agriculture

Medical and Pharmaceutical Chemistry

Materials

DECEMBER 2020

Print ISSN: 0034-7752 / Online ISSN: 2668-8212

<https://revistadechimie.ro>

<https://doi.org/10.37358/Rev.Chim.1949>



REVISTA DE
CHIMIE SRL

**REVISTA DE CHIMIE FOUNDED IN 1949
BUCURESTI ROMANIA**

EDITORIAL BOARD

**Editor-in-Chief:
Gabriel Lucian RADU**

Politehnica University of Bucharest, Romania

**Editorial Manager:
Ion ANDRONACHE**

Revista de Chimie SRL, Bucharest, Romania

EDITORS:

Ionel MANGALAGIU – Chemistry Sciences
Alexandru Ioan Cuza University, Iasi, Romania

Irinel Adriana BADEA – Chemistry Sciences
University of Bucharest, Romania

Costin Sorin BILDEA – Chemical and Biochemical Engineering
Politehnica University of Bucharest, Romania

Ioana FECHETE - Chemical and Biochemical Engineering
Université de Technologie de Troyes, France

Gheorghe NECHIFOR – Environmental Chemistry and Engineering
Politehnica University of Bucharest, Romania

Simona Gabriela BUNGAU - Environmental Chemistry and Engineering
University of Oradea, Romania

Adela PINTEA - Chemistry Application in Food, Nutrition, Agriculture
University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania

Gabriela RAPEANU - Chemistry Application in Food, Nutrition, Agriculture
Dunarea de Jos University of Galati, Romania

Gabriel Ovidiu BRATU - Medical and Pharmaceutical Chemistry
Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Camelia DIACONU - Medical and Pharmaceutical Chemistry
Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Maria CAZACU – Materials
Petru Poni Institute of Macromolecular Chemistry, Iasi, Romania

Iulian ANTONIAC – Materials
Politehnica University of Bucharest, Romania

ASOCIATE EDITORS:

Lotfi ALEYA
Université de Franche-Comté, France

Patrick Da COSTA
Sorbonne Universite, France

Remi CHAUVIN
University of Toulouse, France
Huaqiao University, Xiamen Campus, China

Giuseppe GATTUSO
University of Messina, Italy

Andrei JITIANU
Lehman College of The City University of New York, USA

Piotr KURCOK
Centre of Polymer and Carbon Materials Polish Academy of Sciences, Poland

Bouchta SAHRAOUI
University of Angers, UFR Sciences
Institute of Sciences and Molecular Technologies of Angers, France

Yanzhong ZHANG
College of Chemistry, Chemical Engineering & Biotechnology Donghua University, China

EDITORIAL ADVISORY BOARD:

Codrina ANCUTA
University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania

Sanda ANDREI
University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania

Catalina ARSENESCU
University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania

Camelia BALA
University of Bucharest, Romania

Narcis BARSAN
Vasile Alecsandri University of Bacau, Romania

Ede BODOKI
Iuliu Hatieganu University of Medicine & Pharmacy, Cluj-Napoca, Romania

Andreea BUNEA
University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania

Ioan CALINESCU
Politehnica University of Bucharest, Romania

Simona CAPRARESCU
Politehnica University of Bucharest, Romania

Otilia CINTEZA
University of Bucharest, Romania

Dragos Mihael CIUPARU
Petroleum - Gas University of Ploiesti, Romania

Simona CLICHICI
University of Medicine and Pharmacy, Cluj-Napoca, Romania

Simona COMAN
University of Bucharest, Romania

Carolina CONSTANTIN
Victor Babes National Institute, Bucharest, Romania

Lucian Octav COPOLOVICI
Aurel Vlaicu University, Arad, Romania

Calin Cristian CORMOS
Babeş-Bolyai University, Cluj Napoca, Romania

Dana CULITA
Institute of Physical Chemistry Ilie Murgulescu, Bucharest, Romania

Andrei DANET
University of Bucharest, Romania

Iulia Gabriela DAVID
University of Bucharest, Romania

Gyorgy DEAK
INCDPM, Bucharest, Romania

Kamel EARAR
Dunarea de Jos University of Galati, Romania

Abdol Ghaffar EBADI
Tajik Academy of Science, Tajikistan

Petru FILIP
C. D. Nenitescu Institute of Organic Chemistry, Bucharest, Romania

Anca Irina GALACTION
University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania

Maria HARJA
Technical University Gheorghe Asachi, Iasi, Romania

Cosmin JINESCU
Politehnica University of Bucharest, Romania

Vasile LAVRIC
Politehnica University of Bucharest, Romania

Mihai Nita LAZAR
ECOIND, Bucharest, Romania

Simona Carmen LITESCU
National Institute for Biological Sciences, Bucharest, Romania

Cristian MATEI
Politehnica University of Bucharest, Romania

Florin MICULESCU
Politehnica University of Bucharest, Romania

Maria MOHORA

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Lucia MUTIHAC

University of Bucharest, Romania

Denisa NISTOR

Vasile Alecsandri University of Bacau, Romania

Octavian OLARU

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Eliza OPREA

University of Bucharest, Romania

Ovidiu OPREA

Politehnica University of Bucharest, Romania

Cristian Valeriu PIRVU

Politehnica University of Bucharest, Romania

Ileana RAU

Politehnica University of Bucharest, Romania

Cristian SIMION

Politehnica University of Bucharest, Romania

Sonia SOCACI

University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania

Bogdan SOCEA

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Irina STOIAN

Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Emanuel VAMANU

University of Agronomical Sciences and Veterinary Medicine, Bucharest, Romania

Camelia VIZIREANU

Dunarea de Jos University of Galati, Romania

Laurian VLASE

University of Medicine and Pharmacy Iuliu Hatieganu, Cluj Napoca, Romania

Maria ZAHARESCU

Institute of Physical Chemistry Ilie Murgulescu, Bucharest, Romania
Romanian Academy

PUBLISHER STAFF:

Alice CRISTEA – Manager

Elena ANDRONACHE – IT

Monica BALUTA – Editing

Iuliana GHITA – Accounting

Impact factor 2019: 1.755

CONTENTS
12 / 2020

LIVIU BIRZAN, VICTORITA TECUCEANU, MIHAELA CRISTEA, CONSTANTIN C. DRAGHICI, ANAMARIA HANGANU, ALEXANDRU C. RAZUS New Benzo- and Dibenzo-Crown Ethers with (Azulen-1-yl) Vinyl Substituents.....	1
ALEXANDRINA MANEA, NICOLETA VRINCEANU, CARMEN-ALINA EFTENE, DANIELA RADUCU The Heavy Metal Status of Some Agricultural Soils.....	10
LOKMAN A. ABDULKAREEM, VEYAN A. MUSA, RAID A. MAHMOOD, EZIDEEN A. HASSO Experimental Investigation of Two-Phase Flow Patterns in a Vertical to Horizontal Bend Pipe Using Wire-Mesh Sensor.....	18
NAGY A.E. EMARA, REHAB M. AMIN, AHMED F YOUSSEF, SOUAD A. ELFEKY Recycling of Steel Industry Waste Acid in the Preparation of Fe ₃ O ₄ Nanocomposite for Heavy Metals Remediation from Wastewater.....	34
ZAENAL ABIDIN, VICKY PRAJAPUTRA, SRI BUDIARTI, DYAH TJAHYANDARI SURYANINGTYAS, NAOTO MATSUE, MASAYUKI SAKAKIBARA Effect of Alkaline Concentrations on the Synthesis of Volcanic Soil-Based Zeolite for Methylene Blue Removal by Fenton-Like Oxidation Process.....	47
EVGENI SIMEONOV, ZVEZDELINA YANEVA, CHAVDAR CHILEV Extraction of Protodioscin from <i>Tribulus terrestris</i> -Optimisation of Kinetics and Modeling.....	56
VIOREL GHEORGHE, CATALINA GABRIELA GHEORGHE, ANDREEA BONDAREV, CONSTANTIN NICOLAE TOADER, MIHAELA BOMBOS, MATEI VASILE The Contamination Effects and Toxicological Characterization of <i>o</i> -Chlorobenzylidene Manolonitrile.....	67
MALIK SATAEV, SHAYZADA KOSHKARBAEVA, KALAMKAS AMANBAEVA, PERIZAT ABDURAZOVA, YERKEBULAN RAIYMBEKOV, RAMSHAT ABZHALOV Combined method of nickel plating of cotton fabrics	76
GULDANA SHAIMERDENOVA, KURMANBEK ZHANTASOV, TYNLYBEK BAZHIROV, ALMAGUL KADIRBAYEVA, GULZAT JUSSUPBEKOVA, ZHALGASBEK IZTAYEV, ZLIKHA MAKHANOVA Optimal Parameters for Obtaining Diammonium Phosphate from off-balance Phosphate Raw Materials of the Karatau Basin.....	85
YASSER FAKRI MUSTAFA, MAHMOOD KHUDHAYER OGLAH, MOATH KAHTAN BASHIR Synthesis and Kinetic Study of Novel Coumarin- Based Mutual Prodrug of 5-fluorouracil and 5-ethynyluracil.....	97
SURIPTO D. YUWONO, WASINTON SIMANJUNTAK, FITRIANI, TAKAO KOKUGAN, SUTOPO HADI Semicontinuous Fermentation of Cassava by <i>Streptococcus bovis</i> Using Membrane Bioreactor to Produce Lactic Acid.....	109
KAFEEL AHMAD, NAILA SANA, SONAINA NAZAR, ZAFAR IQBAL KHAN, HUMAYUN BASHIR, MUHAMMAD NADEEM, PERVAIZ AKHTER, MUDASRA MUNIR, AHMED HOSSAM MAHMOUD, OSAMA B MOHAMMED, ASMA ASHFAQ, IFRA SALEEM MALIK Assessment of Lead and Zinc Profile from Vehicle Emission in Roadside Fodder Plants.....	115
ZAFAR IQBAL KHAN, ZILL-E-HUMA, KAFEEL AHMAD, SONAINA NAZAR, HUMAYUN BASHIR, MUHAMMAD SOHAIL, KINZA WAJID, TASNEEM AHMAD, MUDASRA MUNIR, IFRA SALEEM MALIK, MUHAMMAD NADEEM, ALLAH BAKHSH GULSHAN, AHMED HOSSAM MAHMOUD, OSAMA B. MOHAMMED Bioaccumulation of Cadmium in <i>Gallus Fed</i> in Punjab, Pakistan: A Human Health Concern.....	131

**EUIS JULAEHA, MOHAMAD NURZAMAN, DIANA RAKHMAWATY EDDY,
DIKDIK KURNIA, SANDRA PUSPITA, YUDI ROSANDI, TATANG WAHYUDI,
JAMALUDIN AL ANSHORI**

Preparation and Characterization of *Citrus Aurantifolia* Lime

Oils Microcapsules by Complex Coacervation Technique146

**ALEXANDRA GABRIELA CATIANIS, BOGDANA VIRGOLICI, CARMEN BEATRICE DOGARU,
LAURA ANCA POPESCU, DANIEL MIRICESC, ALEXANDRA TOTAN, HORIA MARIUS VIRGOLICI,
MARIA MOHORA**

The Serum Selenium Level, the Activity of Some Selenodependent Enzymes and the

Lipid Profile in Childhood Obesity.....156

**FAIZA ANJU, KAFEEL AHMAD, ZAFAR IQBAL KHAN, SONAINA NAZAR, HUMAYUN BASHIR,
TASNEEM AHMAD, ASMA ASHFAQ, MUDASRA MUNIR, MUHAMMAD UMER FAROOQ AWAN,
KHADIM HUSSAIN, MUHAMMAD NADEEM, JAWAHER ALKAHTANI, MONA S ALWAHIBI,
ABEER MUHAMMED ALI ALNASRAWI, RADIQA ARSHAD**

Appraisal of Metal Uptake in Wheat Treated with Different Doses of Municipal Solid Waste.....164