

REVUE ROUMAINE DE CHIMIE (ROMANIAN JOURNAL OF CHEMISTRY)

Tome 70, N^{os} 7–8

Juliet–Aôut 2025

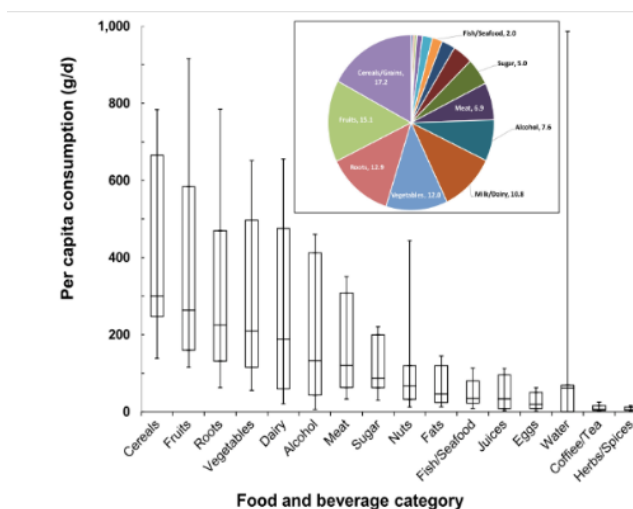
Dedicated to the loving memory of Academician Bogdan C. Simionescu
(March 16th 1948 – October 24th 2024)

Rev. Roum. Chim., 2025, 70(7–8), 375–378

REVIEW

Valeria POP, Alexandru OZUNU and
Elisephane IRANKUNDA

Are microplastic particles in our everyday life?
Hidden sources and accessible solutions – Systematic
review



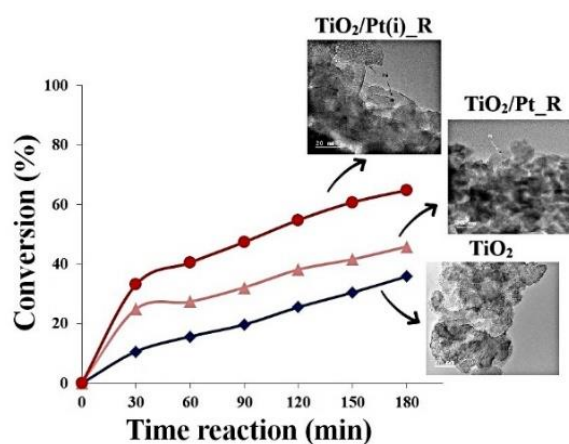
DOI: 10.33224/rrch.2025.70.7-8.01
Rev. Roum. Chim., 2025, 70(7–8), 379–384

Key words: microplastics, sources, human health, environmental impact, solutions.

PAPERS

Alexandra ILIE (SANDULESCU),
Luminita PREDOANA, Crina ANASTASESCU,
Jeanina PANDELE-CUSU, Silviu PREDA,
Adriana RUSU, Daniela C. CULITA,
Veronica BRATAN, Valentin Adrian MARALOIU,
Valentin S. TEODORESCU, Ioan BALINT and
Maria ZAHARESCU

Photocatalytic degradation of ethanol driven by
pristine and metal-modified TiO₂ obtained by sol-gel
method

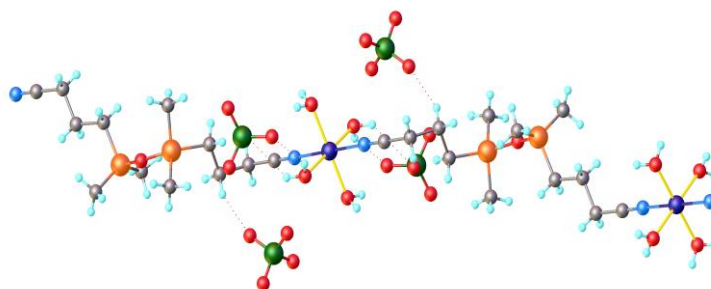


DOI: 10.33224/rrch.2025.70.7-8.02
Rev. Roum. Chim., 2025, 70(7–8), 385–394

Key words: Pt-modified TiO₂, sol-gel method, oxide nanostructures, photocatalyst, degradation of ethanol

Alexandru-Constantin STOICA,
Mihaela DASCĂLU, Sergiu SHOVA and
Maria CAZACU

1D coordination polymers of Zn(II), Cu(II) and Co(II)
 with 1,3-bis(cyanopropyl)tetramethyldisiloxane:
 synthesis, structure and moisture behavior

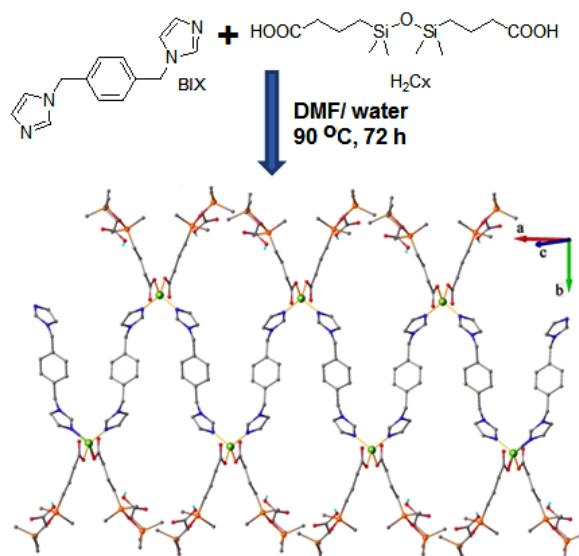


DOI: 10.33224/rrch.2025.70.7-8.03
 Rev. Roum. Chim., 2025, 70(7–8), 395–402

Key words: coordination polymer; 1D structure; bis(cyanide) ligand;
 disiloxane spacer; synthesis in molten salts.

Mirela-Fernanda ZALTARIOV,
Diana-Elena ROTARU, Irina VODA,
Sergiu SHOVA, Ionut-Radu TIGOIANU and
Maria CAZACU

One-dimensional Zn(II) coordination polymer based
 on 1,3-bis(3-carboxypropyl)tetramethyldisiloxane
 and 1,4-bis((1H-imidazol-1-yl)methyl)benzene:
 synthesis, structural characterization and applications

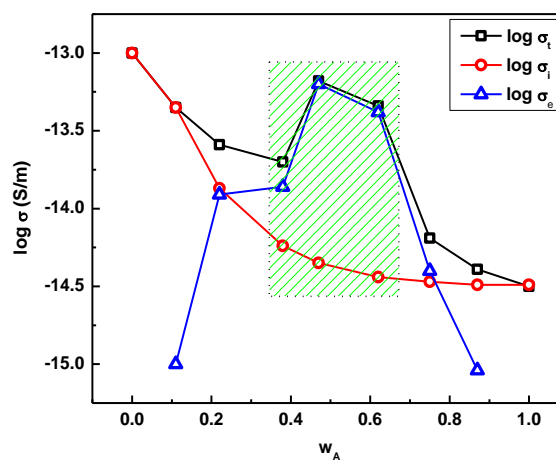


DOI: 10.33224/rrch.2025.70.7-8.04
 Rev. Roum. Chim., 2025, 70(7–8), 403–409

Key words: 1D coordination polymer;
 bis(carboxypropyl)tetramethyldisiloxane; zinc(II) complex; Fe³⁺ detection.

Cristian Vasile GRIGORAS,
Valentina Elena MUSTEATA,
Anca Giorgiana GRIGORAS and
Virgil BARBOIU

Effects of donor-acceptor interactions on structural
 relaxation and electrical conduction of polymers
 observed by dielectric spectroscopy

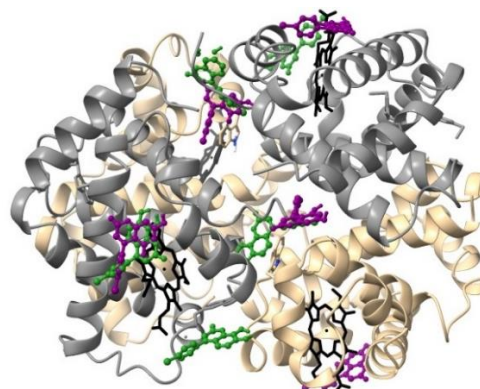


DOI: 10.33224/rrch.2025.70.7-8.05
 Rev. Roum. Chim., 2025, 70(7–8), 411–420

Key words: dielectric spectra, donor-acceptor copolymers, dielectric
 relaxation, electric conduction, effects of donor-acceptor
 interactions.

Nicoleta ANDRIAN, Cezara ZAGREAN-TUZA,
Maria LEHENE, Balazs BREM, Emese GAL,
Bianca STOEAN, Luiza GAINA,
Evamarie HEY-HAWKINS and
Radu SILAGHI-DUMITRESCU

Controlling the biologically relevant reactivity in coumarin derivatives: from antioxidant to prooxidant to DNA toxicity in two 5,7-dihydroxy-2H-chromen-2-one derivatives

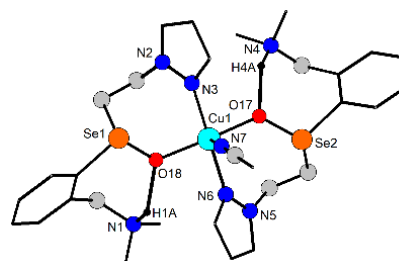


DOI: 10.33224/rrch.2025.70.7-8.06
Rev. Roum. Chim., 2025, 70(7–8), 421–433

Key words: hemoglobin, albumin, coumarin, UV-Vis, docking, fluorescence, DNA, DFT.

Roxana A. BUTUZA, Alexandra POP and
Anca SILVESTRU

Copper(II) complexes of diorganoselenium ligands containing a pyrazole functionality

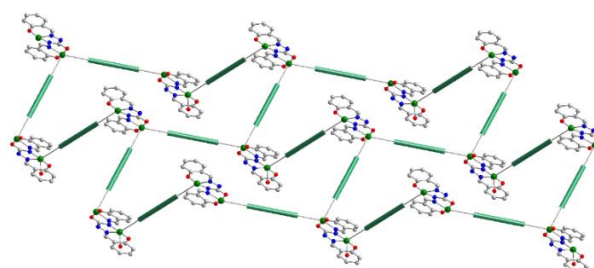


DOI: 10.33224/rrch.2025.70.7-8.07
Rev. Roum. Chim., 2025, 70(7–8), 435–441

Key words: copper(II) complexes, diorganoselenium ligand, solution behavior, single-crystal X-ray diffraction.

Natalia TALMACI, Teodora MOCANU,
Sergiu SHOVA, Mihai RĂDUCĂ,
Diana DRAGANCEA and Marius ANDRUH

Coordination polymers constructed from binuclear copper(II) carbohydrazone nodes and bis(4-pyridyl) spacers

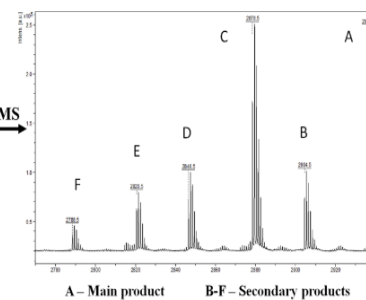
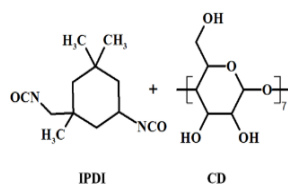


DOI: 10.33224/rrch.2025.70.7-8.08
Rev. Roum. Chim., 2025, 70(7–8), 443–453

Key words: copper complexes, coordination polymers, carbohydrazone, 2-hydroxybenzaldehyde, crystal structures.

Alexandra-Diana DIACONU,
Mihaela BALAN-PORCARASU,
Valeria HARABAGIU and Cristian PEPTU

The investigation of β -cyclodextrin derivatization with isophorone diisocyanate through MALDI mass spectrometry

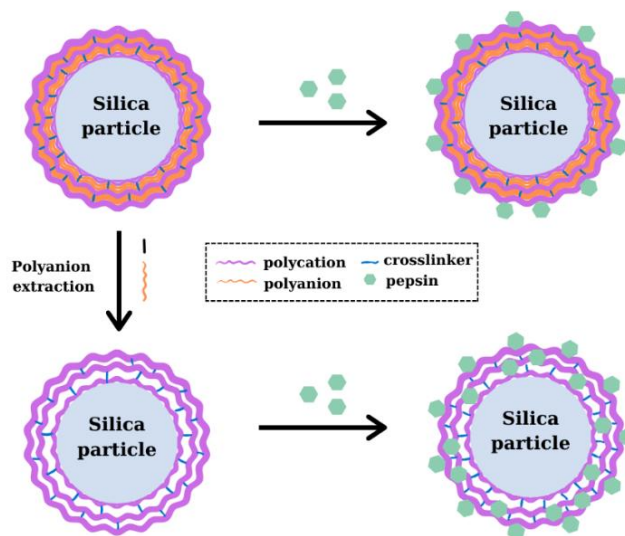


DOI: 10.33224/rrch.2025.70.7-8.09
Rev. Roum. Chim., 2025, 70(7–8), 455–463

Key words: cyclodextrin, isophorone-diisocyanate, MALDI MS.

Larisa-Maria PETRILA, Florin BUCATARIU and Marcela MIHAI

Optimization of pepsin sorption on Core-Shell composite materials for enhancing enzyme retention

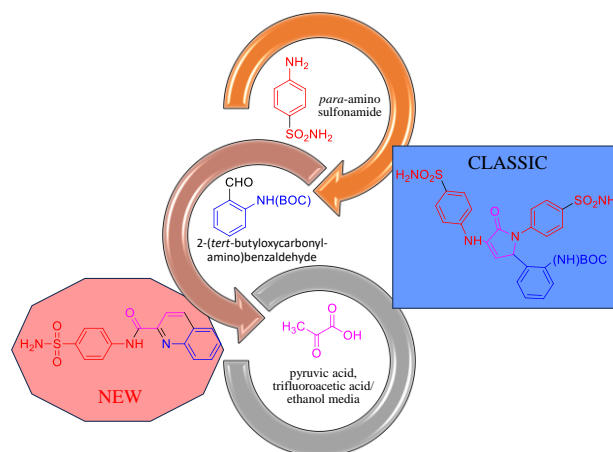


DOI: 10.33224/rrech.2025.70.7-8.10
Rev. Roum. Chim., 2025, 70(7–8), 465–473

Key words: pepsin, layer-by-layer, composite materials, sorption, protein separation.

Alina NICOLESCU, Mariana PINTEALA and Cristina M. AL-MATARNEH

New synthesis route toward unexpected quinoline-sulfonamide compound

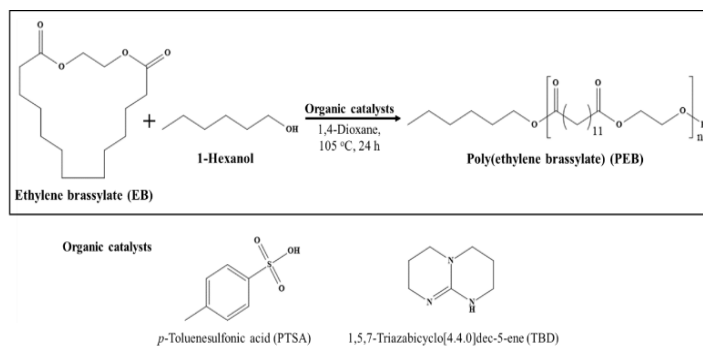


DOI: 10.33224/rrech.2025.70.7-8.11
Rev. Roum. Chim., 2025, 70(7–8), 475–482

Key words: quinoline, sulfonamide, pyrrole, Doebner reaction, BOC.

Bianca-Elena-Beatrice CRETU, Alina Gabriela RUSU, Daniel TIMPU and Loredana E. NITA

Sustainable pathways for poly(ethylene brassylate) synthesis

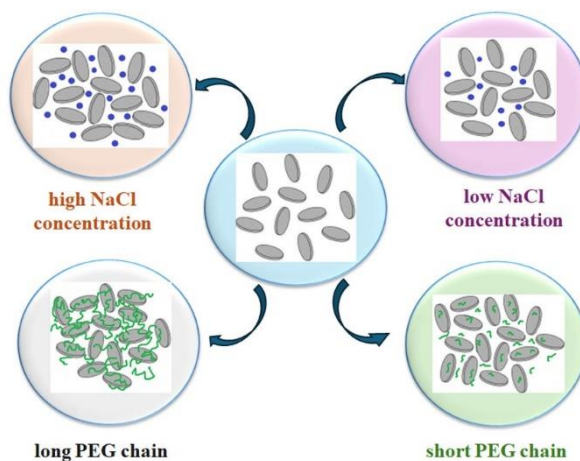


DOI: 10.33224/rrech.2025.70.7-8.12
Rev. Roum. Chim., 2025, 70(7–8), 483–492

Key words: poly(ethylene brassylate), ring-opening polymerization, organic catalysts, *p*-toluenesulfonic acid, 1,5,7-triazabicyclo[4.4.0]dec-5-ene.

Cristina-Eliza BRUNCHI and Simona MORARIU

Viscometric investigation of Laponite® RD aqueous dispersions. Effect of salt and polymer addition

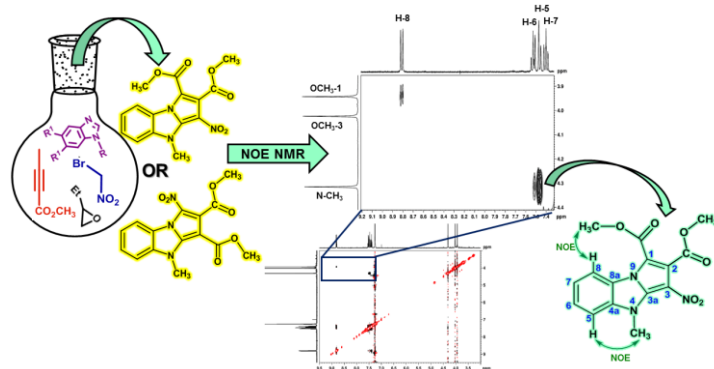


DOI: 10.33224/rch.2025.70.7-8.13
Rev. Roum. Chim., 2025, 70(7–8), 493–501

Key words: smectite, Laponite® RD, poly(ethylene glycol), electrolyte solution, intrinsic viscosity.

Alina NICOLESCU, Emilian GEORGESCU, Florentina GEORGESCU, Florina TEODORESCU, Florea DUMITRASCU, Petru FILIP, Mihaela CRISTEA and Calin DELEANU

Synthesis of 3-nitropyrrolo[1,2-*a*]benzimidazoles and 2-nitropyrrolo[1,2-*a*]quinoxalines via multicomponent reactions

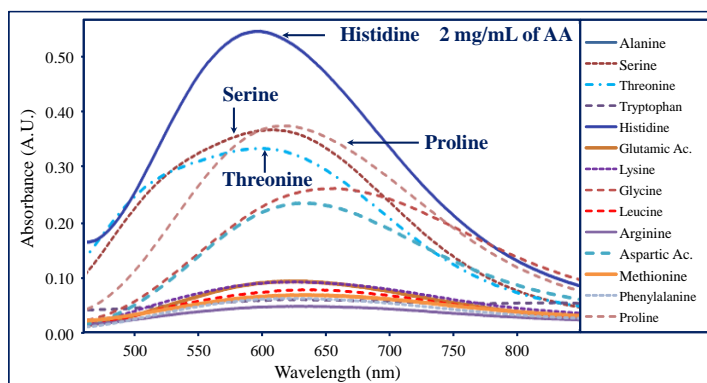


DOI: 10.33224/rch.2025.70.7-8.14
Rev. Roum. Chim., 2025, 70(7–8), 503–511

Key words: heterocycles, *N*-bridgehead pyrroloazoles, *N*-bridgehead pyrroloquinolines, 3-nitro-pyrrolo[1,2-*a*]benzimidazoles, 2-nitro-pyrrolo[1,2-*a*]quinoxalines, one-pot multicomponent reactions.

Elena MIHALCEA and Gabi DROCHIOIU

Improved protein assay based on the biuret reaction: interference of proteinogenic amino acids

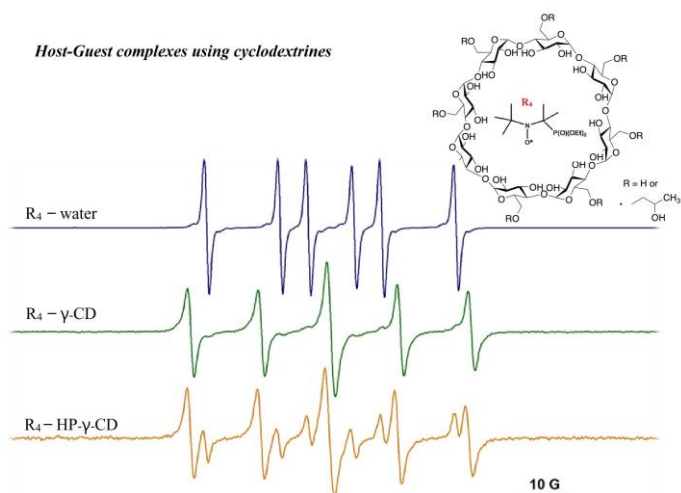


DOI: 10.33224/rch.2025.70.7-8.15
Rev. Roum. Chim., 2025, 70(7–8), 513–522

Key words: protein determination, biuret reaction, amino acids interference, microplate spectrophotometry, spectrophotometry.

Alexandru-Gabriel BUCUR, Jean-Patrick JOLY, Iulia MATEI, Sylvain R. A. MARQUE and Gabriela IONITA

An overview on host properties of γ -cyclodextrin and hydroxy-propyl- γ -cyclodextrin for nitroxides and β -phosphorylated nitroxides

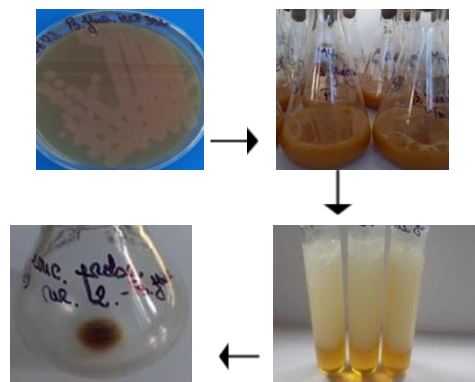


DOI: 10.33224/rch.2025.70.7-8.16
Rev. Roum. Chim., 2025, 70(7–8), 523–530

Key words: cyclodextrin, nitroxides, β -phosphorylated nitroxides, EPR spectroscopy.

Roxana Mădălina STOICA, Elena Simina LAKATOS and Lucian Ionel CIOCA

Stability and antimicrobial activity of biosurfactant produced by *Pseudomonas fluorescens* ICCF 392 strain cultivated on renewable substrates



DOI: 10.33224/rch.2025.70.7-8.17
Rev. Roum. Chim., 2025, 70(7–8), 531–542

Key words: glycerol, waste cooking oil, mixed substrate, waste valorization, microbial surfactant, *Staphylococcus aureus*; *Escherichia coli*; *Pseudomonas aeruginosa*.