Revue Roumaine de Chimie, **2026**, *71*(5–6), 291–436

REVUE ROUMAINE DE CHIMIE (ROUMANIAN JOURNAL OF CHEMISTRY)

Tome 71, Nos 5–6 **Mai–Juin 2026**

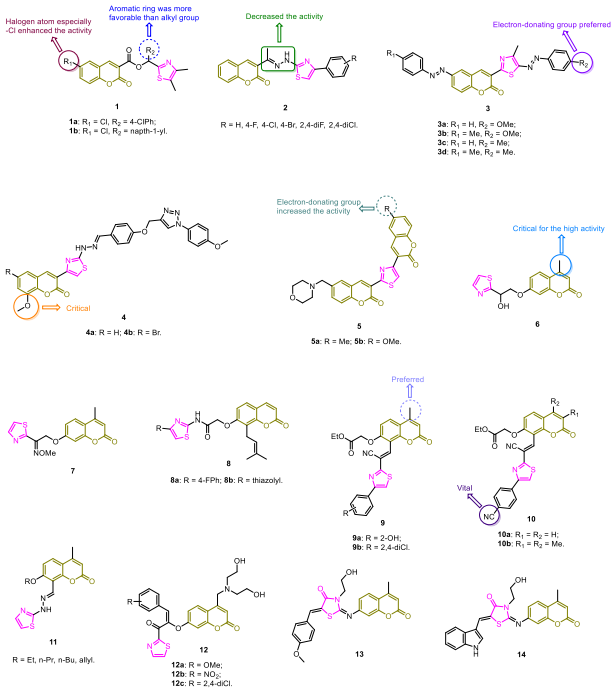
Bridging molecules, mathematics and generations: celebrating Professor Alexandru T. Balaban at his 95th anniversary

Rev. Roum. Chim., **2026**, *71*(5–6), 295–296

REVIEW

Chen YIMEN

Thiazole hybrids with antibacterial potential against *Staphylococcus aureus*



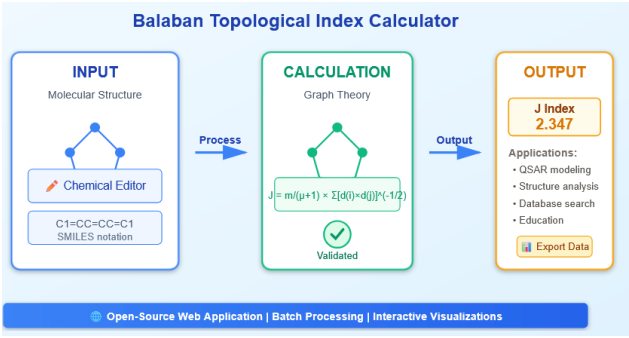
DOI: 10.33224/rrch.2026.71.5-6.01
Rev. Roum. Chim., **2026**, *71*(5–6), 297–315

Key words: thiazole, hybrid, *S. aureus*, drug resistance, SARs.

PAPERS

Liliana HALIP, Nicoleta STOIAN and Sorin AVRAM

Computational chemistry tool for calculating the Balaban Index: development, validation and applications

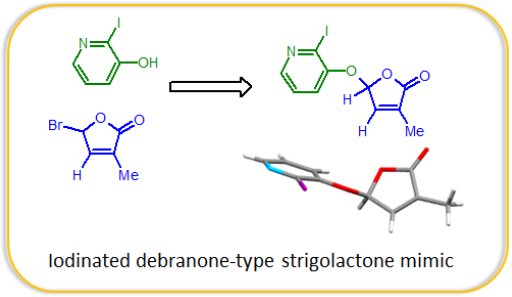


DOI: 10.33224/rrch.2026.71.5-6.02
Rev. Roum. Chim., **2026**, *71*(5–6), 317–324

Key words: Balaban index, topological index, molecular descriptor, QSAR, computational chemistry

Florea DUMITRASCU, Sergiu SHOVA, Florentina GEORGESCU, Constantin DRAGHICI and Marcel Mirel POPA

The synthesis and structural characterization of a new iodinated strigolactone mimic

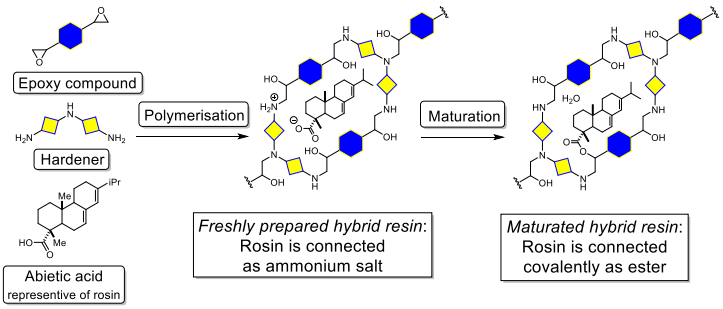


DOI: 10.33224/rrch.2026.71.5-6.03
Rev. Roum. Chim., **2026**, *71*(5–6), 325–332

Key words: strigolactone mimic, X-ray diffraction, NMR spctroscopy, crystal packing, halogen contact.

Ion NEDA, Martin Heiko FRANZ, Ion CIUCA, Walter Robert LINKE, Michael Ryan HANSEN, Dumitru BOLCU and Marius Marinel STANESCU

Mechanical and chemical properties of rosin-based hybrid resins

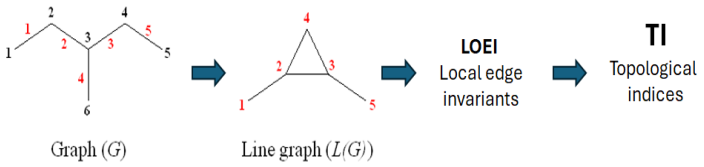


DOI: 10.33224/rrch.2026.71.5-6.04
Rev. Roum. Chim., **2026**, *71*(5–6), 333–342

Key words: composite materials, hybrid resin, natural resin, rosin, solid state 13C NMR.

Paul I. SEZONOV, Andrei T. PANTEA, Adrian BETERINGHE and Petru I. FILIP

QSPR studies using new third generation topological indices. I. Local edge invariants and topological indices generated from the edge-adjacency matrix of molecular graphs

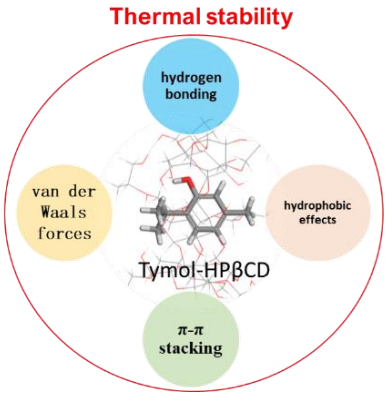


DOI: 10.33224/rrch.2026.71.5-6.05
Rev. Roum. Chim., **2026**, *71*(5–6), 343–351

Key words: topological indices, local edge invariants, edge-adjacency matrix, QSAR/QSPR.

Ana NEACŞU, Daniela GHEORGHE, Ancuța Mihaela SOFRONIA and Dana-Andreea NEACŞU

Thermochemical evaluation of the inclusion complexes between 2-hydroxypropril-beta-cyclodextrin with eugenol, thymol and carvacrol

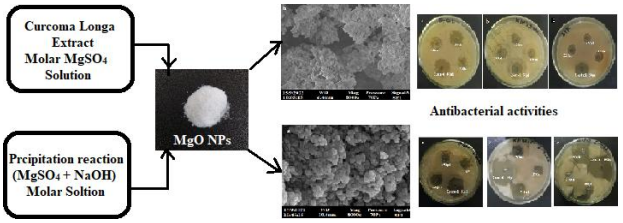


DOI: 10.33224/rrch.2026.71.5-6.06
Rev. Roum. Chim., **2026**, *71*(5–6), 353–361

Key words: inclusion complex, antiinflamatory, enthalpy of combustion, calorimetry, 2-hydroxypropyl)-β-cyclodextrin.

Arshad HUSSAIN WAZIR, Bushra GUL, Nabeel AHMAD and Khurram YAQOOB

Antibacterial assessment and characterization of magnesium oxide nanoparticles synthesized *via* chemical and phytosynthesis methods

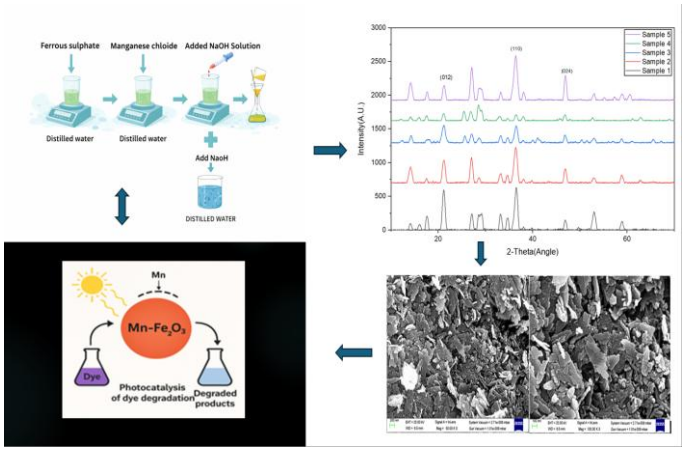


DOI: 10.33224/rrch.2026.71.5-6.07
Rev. Roum. Chim., **2026**, *71*(5–6), 363–372

Key words: magnesium oxide nanoparticles, chemical synthesis, plant-mediated synthesis, nanoparticle characterization, antibacterial activity.

Pratibha BHARDWAJ, Y. C. GOSWAMI and U. P. S GAHLAUT

Photocatalytic degradation of carmine dye using Mn-doped iron oxide nanostructures

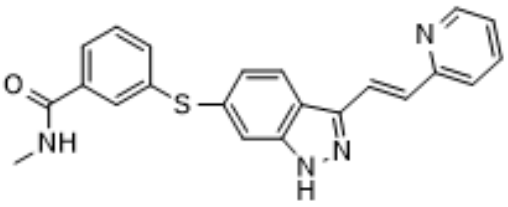


DOI: 10.33224/rrch.2026.71.5-6.08
Rev. Roum. Chim., **2026**, *71*(5–6), 373–387

Key words: co-precipitation, contaminants, wastewater, adsorption, carcinogenic dyes.

Burhan CEYLAN, Cem ÖNAL and Armağan ÖNAL

Development of a novel HPLC method for the determination of axitinib in human plasma based on fluorimetric detection and precolumn derivatization with 7-chloro-4-nitrobenzofuraza: application to a prototype pharmacokinetic study



DOI: 10.33224/rrch.2026.71.5-6.09
Rev. Roum. Chim., **2026**, *71*(5–6), 389–397

Key words: axitinib, HPLC-FL, pharmacokinetics, pre-column derivatization, validation.

Mohammed Qadir SAEED, Fazal REHMAN, Adyani Azizah Abd. HALIM, Saharuddin B. MOHAMAD, Mujaheed Abubakar, Kushagra KHANNA, Mogana S. RAJAGOPAL and Saad TAYYAB

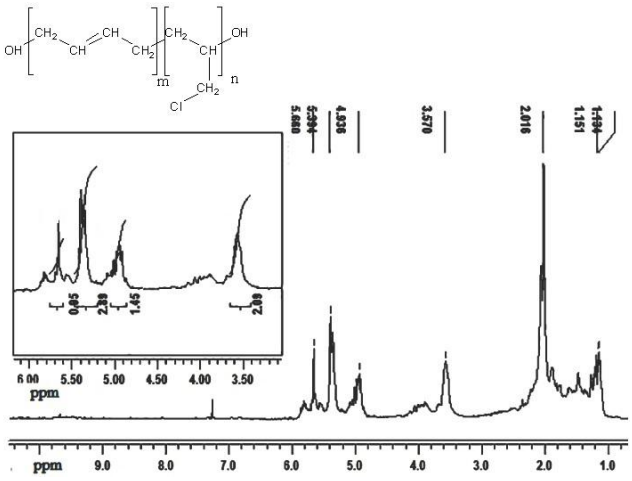
Computational analysis of anti-HIV-1 drug, rilpivirine interaction with human serum albumin

DOI: 10.33224/rrch.2026.71.5-6.10
Rev. Roum. Chim., **2026**, *71*(5–6), 399–411

Key words: HIV, rilpivirine, human serum albumin, molecular docking, molecular dynamics simulation, drug–protein interaction.

Yadollah BAYAT, Vahid AZIZKHANI and Vida ZEYNALI

Synthesis of hydroxyl-terminated poly(butadiene-co-allyl chloride) *via* H_2O_2/isopropanol radical copolymerization and its conversion to hydroxyl-terminated poly(butadiene-co-allyl-azide)

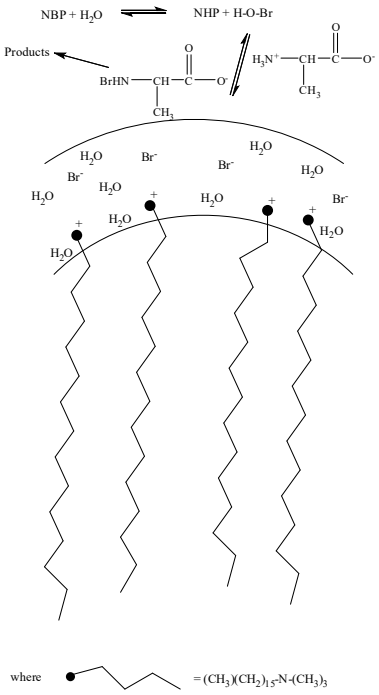


DOI: 10.33224/rrch.2026.71.5-6.11
Rev. Roum. Chim., **2026**, *71*(5–6), 413–421

Key words: hydroxyl-terminated poly (butadiene-co-allyl azide); hydroxyl-terminated poly (butadiene-co-allyl chloride); co-polymerization; 1,3-butadiene; allyl chloride.

Ghanat K. JOSHI

Kinetics of L-alanine oxidation by *N*-bromophthalimide in the presence of cetyltrimethylammonium bromide



DOI: 10.33224/rrch.2026.71.5-6.12
Rev. Roum. Chim., **2026**, *71*(5–6), 423–435

Key words: kinetics, *N*-bromophthalimide, L-alanine, cationic surfactant, oxidation.