

# REVUE ROUMAINE DE CHIMIE (ROMANIAN JOURNAL OF CHEMISTRY)

Tome 70, N<sup>os</sup> 9–10

Septembre–Octobre 2025

Cristiana Luminița GÎJIU

To Professor Gheorghe Maria on the occasion of his 70<sup>th</sup> anniversary – excellency in chemical and biochemical engineering

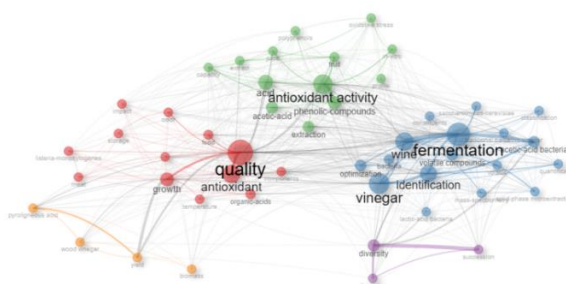
DOI: 10.33224/rrch.2025.70.9-10.01

Rev. Roum. Chim., 2025, 70(9–10), 547–571

## REVIEWS

Fulvia-Ancuța MANOLACHE,  
Cătălina-Beatrice POTERAȘ,  
Teodora-Alexandra IORDACHE and  
Maria-Cristina TODAȘCĂ

Modern analytical techniques for vinegar authentication and quality assessment: a comprehensive review



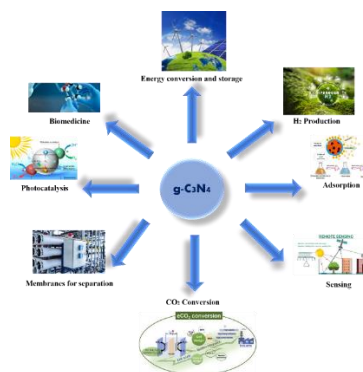
DOI: 10.33224/rrch.2025.70.9-10.02

Rev. Roum. Chim., 2025, 70(9–10), 573–583

**Key words:** vinegar, raw materials, analysis, NMR, FTIR, UV-Vis, NIR, GC-MS, PCA.

Walla ALELWANI

Graphitic carbon nitride: paving the way  
revolutionary biomedical and nano landscapes in the  
last decade



DOI: 10.33224/rrch.2025.70.9-10.03

Rev. Roum. Chim., 2025, 70(9–10), 585–606

**Key words:** g-C<sub>3</sub>N<sub>4</sub> applications, biomedicines, nanosensors, tissue engineering, nanomaterials, anticancer, photocatalyst, modern batteries.

## PAPERS

Niculae I. IONESCU and Veronica BRATAN

Oscillatory behavior of methanol oxidation on a solid catalyst

$$2 \ln T_M = \frac{\Delta E}{RT_M}$$

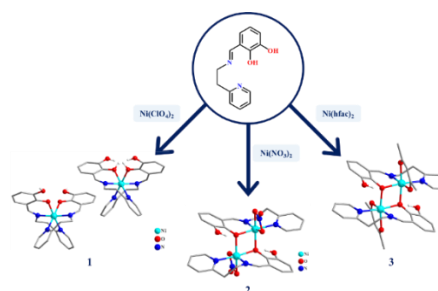
DOI: 10.33224/rrch.2025.70.9-10.04

Rev. Roum. Chim., 2025, 70(9–10), 607–609

**Key words:** methanol oxidation, activation energy.

**Diana-Ioana EFTEMIE, Teodora MOCANU, Diana DRAGANCEA, Mihai RĂDUCĂ and Marius ANDRUH**

Mononuclear and binuclear nickel(II) complexes with a Schiff base ligand derived from 2,3-dihydroxybenzaldehyde

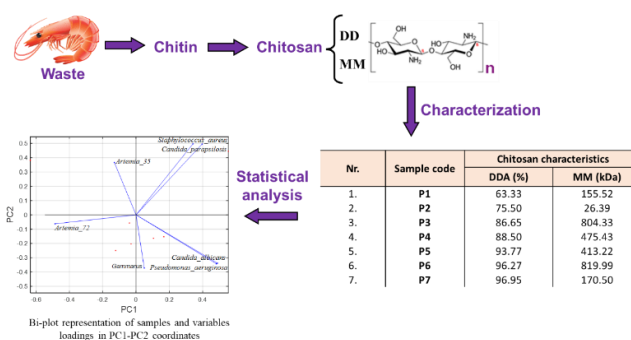


DOI: 10.33224/rrch.2025.70.9-10.05  
Rev. Roum. Chim., 2025, 70(9–10), 611–619

**Key words:** nickel complexes, Schiff-base ligands, crystal structures, binuclear complexes.

**Cristiana Luminița GÎJIU, Miruna-Maria APETROAEI, Raluca ISOPESCU, Daniel DINCULESCU, Daria GRIGORI, Laura ENACHE, Gabriela MITEA, Irina Mihaela IANCU, Sorin GRIGORE and Verginica SCHRÖDER**

Experimental evaluation of chitosan characteristics on three model assays of biological interferences

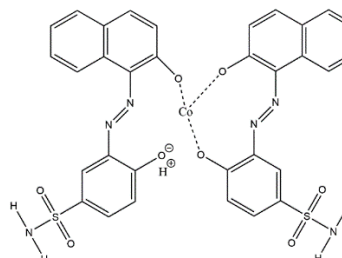


DOI: 10.33224/rrch.2025.70.9-10.06  
Rev. Roum. Chim., 2025, 70(9–10), 621–630

**Key words:** chitosan, marine waste, minimum inhibitory concentration, Partial Component Analysis (PCA)

**Aleksandra MICIC, Ivona Jankovic CASTVAN, Nenad CIRKOVIC, Bratislav TODOROVIC and Dragan DJORDJEVIC**

Kinetics studies of metal-complex dye adsorption on waste textile based adsorbent

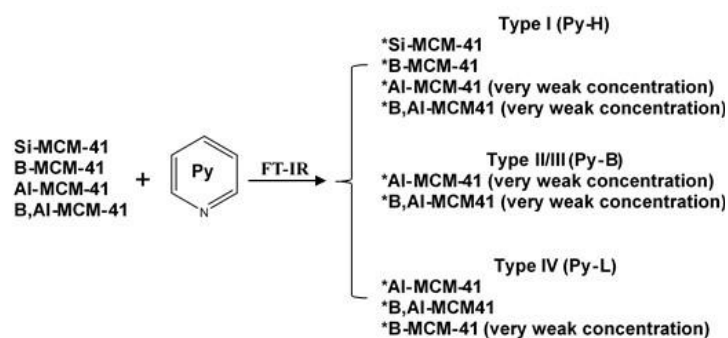


DOI: 10.33224/rrch.2025.70.9-10.07  
Rev. Roum. Chim., 2025, 70(9–10), 631–638

**Key words:** clothing, metal-complex dye, cellulose-based adsorbent, kinetic models.

**Lamia BRAHMI, Ali-Dahmane TEWFIK, Rachida HAMACHA and Salih HACINI**

Determination of the nature of acid sites in B-MCM-41 and A1-MCM-41

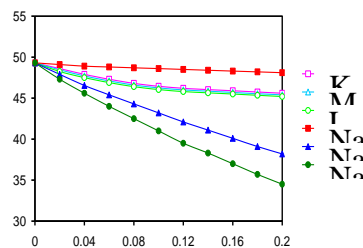


DOI: 10.33224/rrch.2025.70.9-10.08  
Rev. Roum. Chim., 2025, 70(9–10), 639–649

**Key words:** B-MCM-41, A1-MCM-41, B,AI-MCM-41, Nature of acid sites, Silanol groups.

**Moussa ALIBRAHIM**

Cloud point of mixed solutions of ionic-nonionic surfactants: influence of electrolytes

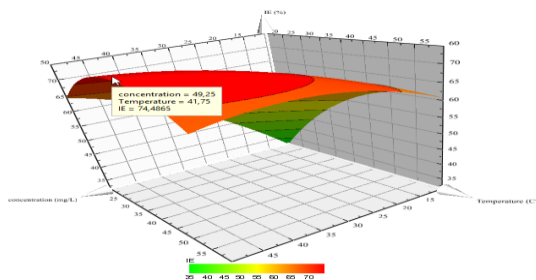


DOI: 10.33224/rrch.2025.70.9-10.09  
 Rev. Roum. Chim., 2025, 70(9–10), 651–659

**Key words:** cloud point, C<sub>12</sub>EO<sub>6</sub>, ionic surfactants, inorganic salts.

**Chahrazed DAOUDI, Fatiha HAMIDI, Abbas BENCHADLI, Tarik ATTAR, Karima SAIDI-BENDAHOU and Chewki Ziani CHERIF**

Optimizing corrosion inhibition of copper in sulfuric acid using magnesium-doped mesoporous manganese silicate: experimental and response surface methodology analysis

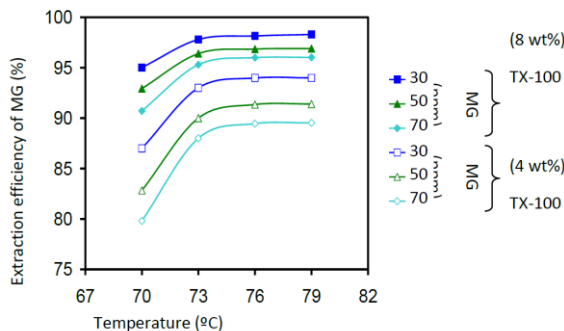


DOI: 10.33224/rrch.2025.70.9-10.10  
 Rev. Roum. Chim., 2025, 70(9–10), 661–670

**Key words:** corrosion inhibition, experimental design, mesoporous materials, thermodynamics, SEM analysis.

**Moussa ALIBRAHIM**

Cloud point extraction of malachite green dye from water samples using Triton X-100 as nonionic surfactant

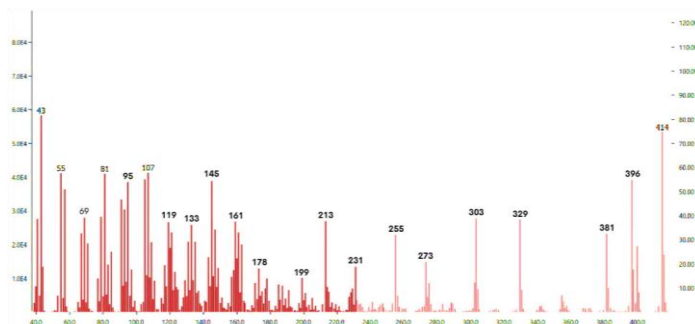


DOI: 10.33224/rrch.2025.70.9-10.11  
 Rev. Roum. Chim., 2025, 70(9–10), 671–678

**Key words:** malachite green dye, TritonX-100, cloud point extraction, removal, coacervate phase.

**Ade Nisa' Kartika AZZAHRA, Nurdiana KHOLIDAH, Althaline Gloria PANJAITAN, Bawon TRIATMOKO, Crhisterra Ellen KUSUMANINGRUM, Hendris WONGSO and Ari Satia NUGRAHA**

Isolation and computational studies of  $\gamma$ -sitosterol from *Elaeocarpus grandiflorus* and its anti-diabetic and anti-hyperlipidemic activities

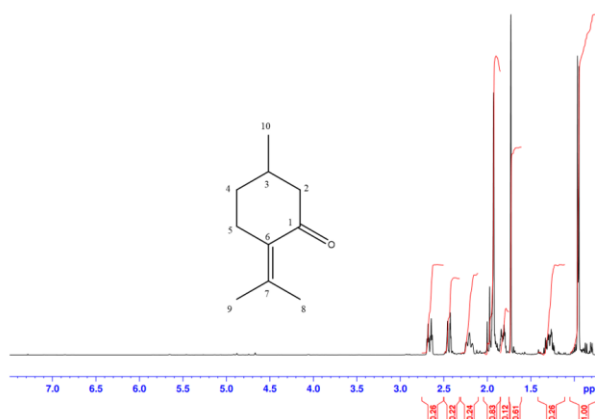


DOI: 10.33224/rrch.2025.70.9-10.12  
 Rev. Roum. Chim., 2025, 70(9–10), 679–686

**Key words:** anti-diabetic, anti-hyperlipidemic,  $\gamma$ -sitosterol *Elaeocarpus grandiflorus*, Anyang-Anyang.

**Nadia BELARBI, Naziha CHABANE and Fayçal DERGAL**

Raman mapping spectroscopy and gravimetric studies on corrosion inhibition of carbon steel in hydrochloric acid solution with *Mentha pulegium* essential oil



DOI: 10.33224/rrech.2025.70.9-10.13  
 Rev. Roum. Chim., 2025, 70(9–10), 687–703

**Key words:** steel, corrosion inhibition, *Mentha pulegium*, adsorption, weight loss, Raman spectroscopy.

**Munir Zubair SIRAJO, Idawu Yakubu SULEIMAN, Kabiru MU'AZU, Njoku Romanus GWUONWU, Adams Sani MUHAMMAD, Ogheneme Ogheneborhie CLIFFORD, Raheem Rasheed ADEBAYO, Omoraka AUSTIN, Amhenrior Ernest OSARHEKPAMHEN, Ijeamiran Tunde MARVELOUS and Akponah OTARIGHO**

Characterization of *Musanga cecropioides* leaf as eco-friendly inhibitor for protection of oil and gas equipment in acidic environment

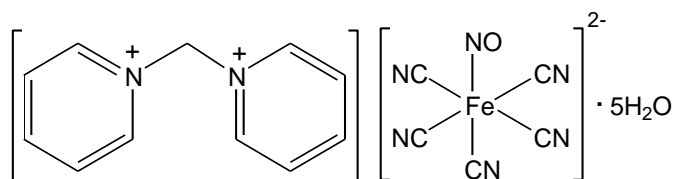


DOI: 10.33224/rrech.2025.70.9-10.14  
 Rev. Roum. Chim., 2025, 70(9–10), 705–716

**Key words:** *Musanga cereoipoides*, characterizations, FT-IR, weight loss, potentiodynamic polarization, phytoconstituents.

**Mahmoud M. Al-KTAIFANI, Mohammad K. SABRA and Wael S. AL-KHOURY**

Mössbauer spectroscopy, crystal and molecular structures of the organic-inorganic hybrid salt: 1,1'-methylenedipyridinium pentacyanonitrosferrate(II) pentahydrate



DOI: 10.33224/rrech.2025.70.9-10.15  
 Rev. Roum. Chim., 2025, 70(9–10), 717–723

**Key words:** organic-inorganic hybrid salt, 1,1'-methylenebispyridinium, pentacyanonitrosferrate(II), molecular structure, Mössbauer spectroscopy, powder X-ray diffraction.