

**SCIENTIFIC ARTICLES – Proceedings of the 29<sup>th</sup> MCC Conference**

REVIEW

**The Total  $\pi$ -Electron Energy Saga**

Ivan Gutman, Boris Furtula

*Croat. Chem. Acta* 2017, 90(3), 359–368

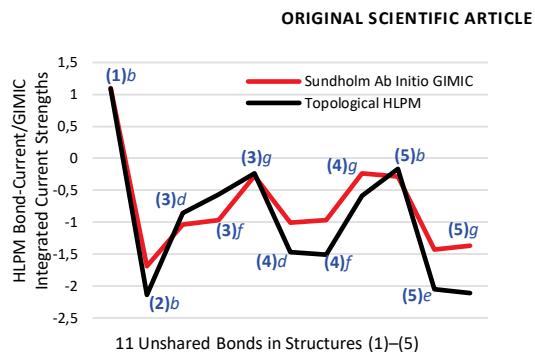
DOI: 10.5562/cca3189

**Ring-Current Properties of Bispenalenes and Related Structures — Comparison of *Ab Initio* and Hückel-London-Pople-McWeeny (HLPN) ‘Topological’ Calculations**

Timothy K. Dickens, Roger B. Mallion

*Croat. Chem. Acta* 2017, 90(3), 369–382

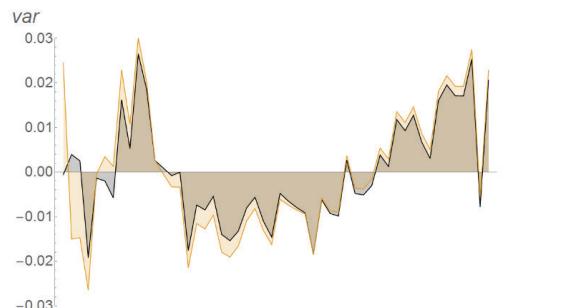
DOI: 10.5562/cca3219


**Polymerization of 1,4-dinitrosobenzene: Kinetics and Submicrocrystal Structure**

Petar Bibulić, Igor Rončević, Vladimir Bermanec, Hrvoj Vančik

*Croat. Chem. Acta* 2017, 90(3), 383–389

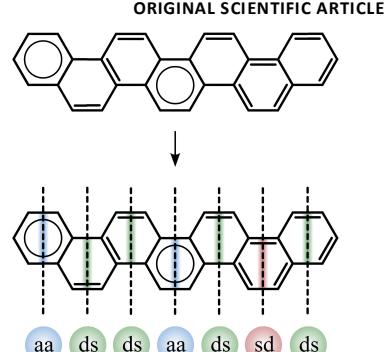
DOI: 10.5562/cca3220


**Connectivity Graphs for Single Zigzag Chains and their Application for Computing ZZ Polynomials**

Johanna Langner, Henryk A. Witek

*Croat. Chem. Acta* 2017, 90(3), 391–400

DOI: 10.5562/cca3191



## SCIENTIFIC ARTICLES – regular section

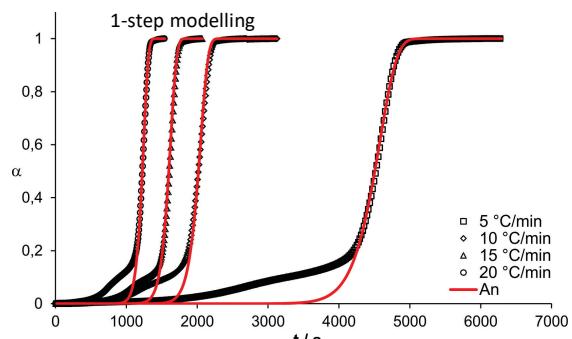
## ORIGINAL SCIENTIFIC ARTICLE

**Kinetic Study of Thermal Degradation of High-impact Polystyrene Nanocomposites with Different Flame Retardants using Isoconversional and Model Fitting Methods**

Zvonimir Katančić, Ivana Grčić, Zlata Hrnjak-Murgić

Croat. Chem. Acta 2017, 90(3), 401–411

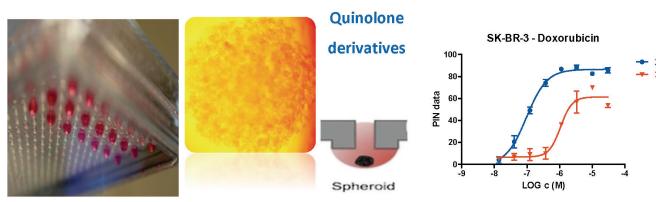
DOI: 10.5562/cca3110



## ORIGINAL SCIENTIFIC ARTICLE

**Comparison of Antitumor Activity of Some Benzothiophene and Thienothiophene Carboxanilides and Quinolones in 2D and 3D Cell Culture System**

Ivo Zlatar, Dubravko Jelić, Vanja Kelava, Maja Cindrić, Ivana Jarak, Sanja Koštrun, Grace Karminski-Zamola, Vesna Gabelica Marković, Marijana Hranjec, Karmen Brajša



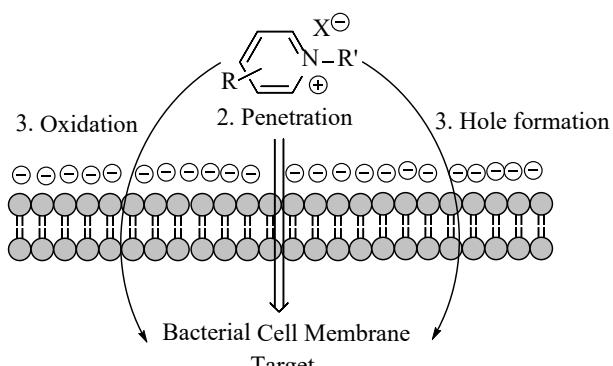
Croat. Chem. Acta 2017, 90(3), 413–424

DOI: 10.5562/cca3139

## ORIGINAL SCIENTIFIC ARTICLE

**Microwave-assisted Quaternization of Various Pyridine Derivatives and their Antibacterial Activity**

Valentina Bušić, Hrvoje Pavlović, Sunčica Roca, Dražen Vikić-Topić, Dajana Gašo-Sokač



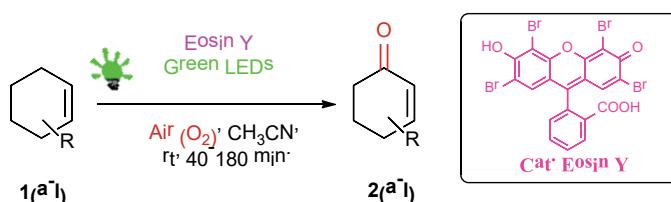
Croat. Chem. Acta 2017, 90(3), 425–433

DOI: 10.5562/cca2937

## ORIGINAL SCIENTIFIC ARTICLE

**Visible Light Promoted Allylic C–H Oxidation**

Vishal Srivastava, Pravin K. Singh, Praveen P. Singh

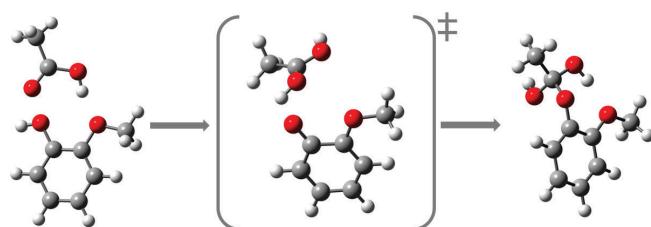


Croat. Chem. Acta 2017, 90(3), 435–441

DOI: 10.5562/cca3126

**Ortho-Methoxy Group as a Mild Inhibitor of the Reactions Between Carboxylic Acid and Phenols**

Andrea Guljas, Anita Rágyszki, Béla Fiser,  
Béla Viskolcz, Imre G. Csizmadia

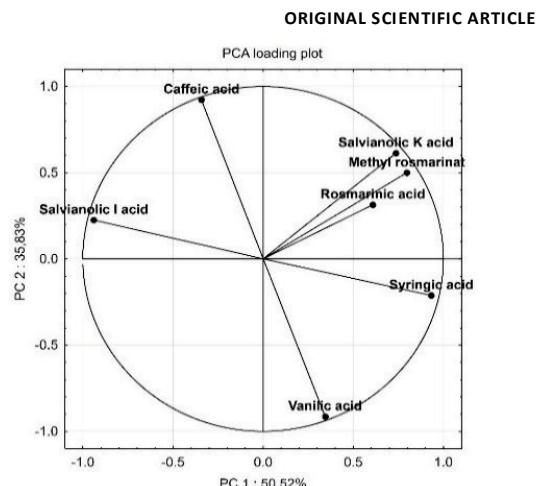


Croat. Chem. Acta 2017, 90(3), 443–450

DOI: 10.5562/cca3187

**Polyphenolic Composition and Antioxidant Capacity of Indigenous Wild Dalmatian Sage (*Salvia officinalis* L.)**

Maja Dent, Danijela Bursać Kovačević, Tomislav Bosiljkov, Verica Dragović-Uzelac

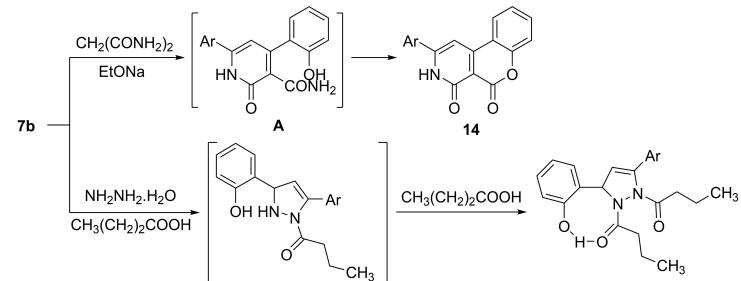


Croat. Chem. Acta 2017, 90(3), 451–459

DOI: 10.5562/cca3231

**Michael Cyclization of Polarized Systems: Synthesis and *in vitro* Anti-Diabetic Evaluation of Some Novel Pyrimidine, Pyridine, Pyrazole and Pyrazolo[3,4-*b*]pyridine Derivatives**

Essam A. Soylem, Mohammed G. Assy,  
Ghania M. Morsi



Croat. Chem. Acta 2017, 90(3), 461–469

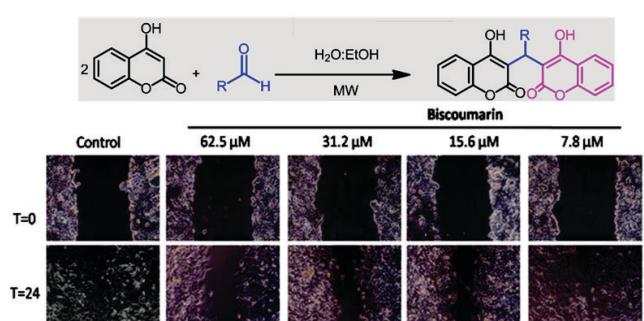
DOI: 10.5562/cca3122

**Anti-Metastatic Propensity of Biscoumarin Scaffold Synthesized Under Catalyst Free Aqueous Phase Microwave Irradiation**

Shazia Muzaffar Banday, Asif Amin, Shabnum Bashir, Raies A. Qadri, Khaliquz Zaman Khan, Masood Ahmad Rizvi

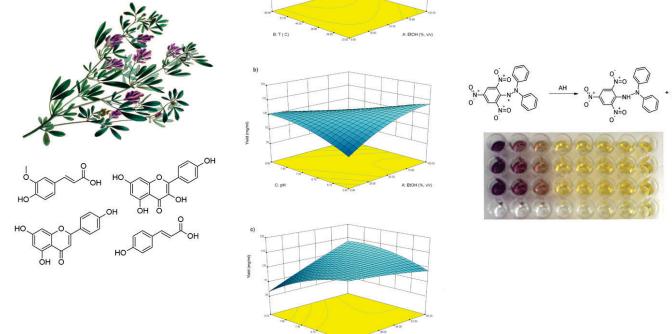
Croat. Chem. Acta 2017, 90(3), 471–480

DOI: 10.5562/cca3136



**Multi-response Optimization of Ultrasound-assisted Extraction of Bioactive Components from *Medicago sativa* L.**

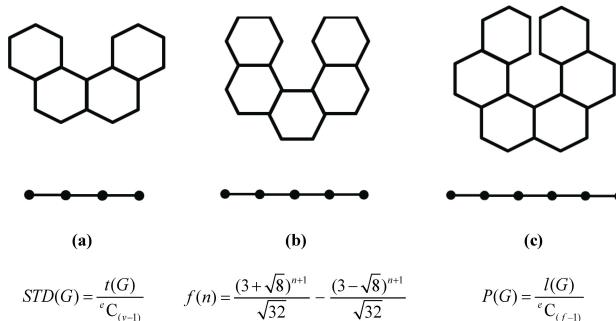
Barbara Fumić, Mario Jug, Marijana Zovko Končić



*Croat. Chem. Acta* 2017, 90(3), 481–491  
DOI: 10.5562/cca3228

**Molecular Complexity of Certain Homologous Series of Condensed Benzenoid Hydrocarbons: Limiting Values of the Patency Index and the Index of Spanning-Tree Density**

Roger B. Mallion, Paul Pollak,  
Paweł J. Skrzyński

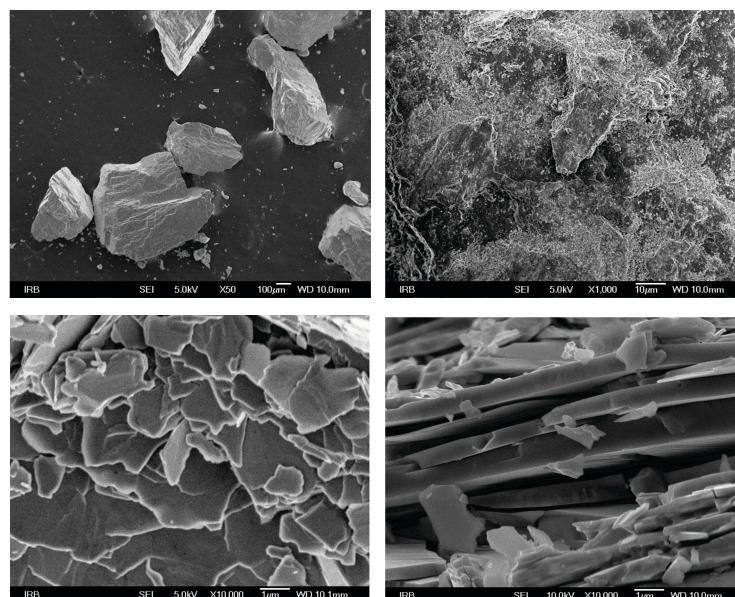


$$STD(G) = \frac{t(G)}{{}^e C_{(v-1)}} \quad f(n) = \frac{(3+\sqrt{8})^{n+1}}{\sqrt{32}} - \frac{(3-\sqrt{8})^{n+1}}{\sqrt{32}} \quad P(G) = \frac{l(G)}{{}^e C_{(f-1)}}$$

*Croat. Chem. Acta* 2017, 90(3), 493–498  
DOI: 10.5562/cca3212

**$^{57}\text{Fe}$  Mössbauer, XRD, FT-IR, FE SEM Analyses of Natural Goethite, Hematite and Siderite**

Mira Ristić, Stjepko Krehula, Michael Reissner, Svetozar Mušić



*Croat. Chem. Acta* 2017, 90(3), 499–507  
DOI: 10.5562/cca3233

**OTHER PAPERS****ESSAY****Fran Bubanović: The Visionary of Medical Chemistry and Biochemistry in Croatia**

Vladimir Damjanović, Kristina Mlinac-Jerković, Svjetlana Kalanj Bognar, Jasna Lovrić

*Croat. Chem. Acta* **2017**, *90*(3), 509–514

DOI: 10.5562/cca3157

**BOOK REVIEW**

Snježana Paušek-Baždar  
**Hrvatski alkemičari tijekom stoljeća**  
[Croatian alchemists within centuries]

Astrid Gojmerac Ivšić

*Croat. Chem. Acta* **2017**, *90*(3), 515–516

DOI: 10.5562/cca3218

**OBITUARY****Vladimir Simeon (1939 – 2017)**

Vladislav Tomišić

*Croat. Chem. Acta* **2017**, *90*(3), 517–518

DOI: 10.5562/cca3235