

# REVUE ROUMAINE DE CHIMIE (ROUMANIAN JOURNAL OF CHEMISTRY)

Tome 59, N<sup>os</sup> 6-7

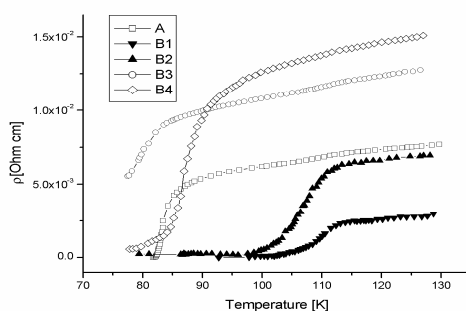
Juin-Juillet 2014

Professor Eugen SEGAL – In memoriam

## PAPERS

Victor FRUTH, Georgeta TANASE,  
Irina ATKINSON, Jeanina PANDELE CUSU,  
Gheorghe ALDICA and Maria ZAHARESCU

Synthesis and characterization of glass-ceramic  
superconductors in (Pb, B)-doped  
Bi-Sr-Ca-Cu-O system

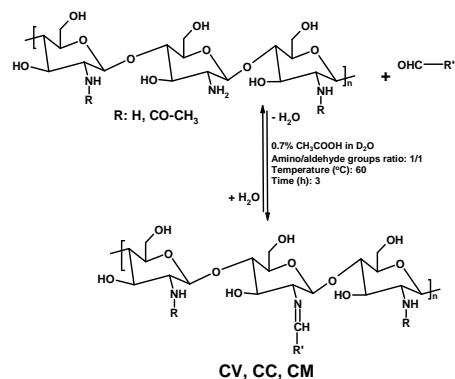


Rev. Roum. Chim., 2014, 59(6-7), 375-383

**Key words:** (Pb, B)-doped BSCCO, glass-ceramic, superconductors.

Daniela AILINCAI, Andrei BEJAN,  
Irina TITORENCU, Mioara DROBOTA and  
Bogdan C. SIMIONESCU

Imino-chitosan derivatives. Synthetic pathway  
and properties

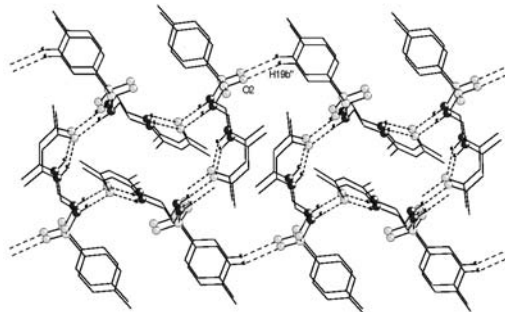


Rev. Roum. Chim., 2014, 59(6-7), 385-392

**Key words:** chitosan, Schiff base, spectroscopy, cell viability.

Dorel OLTEAN, Cristian SILVESTRU and  
Anca SILVESTRU

New multidentate potential ligands derived  
from acetylacetone

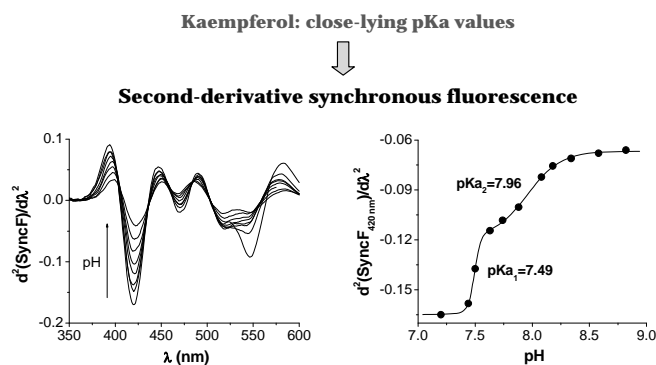


Rev. Roum. Chim., 2014, 59(6-7), 393-399

**Key words:** multidentate ligands, NMR spectroscopy, crystal and molecular  
structure, tautomerism.

**Iulia MATEI, Cristina TABLET, Sorana IONESCU and Mihaela HILLEBRAND**

Close-lying pKa value of kaempferol determined by second-derivative synchronous fluorescence

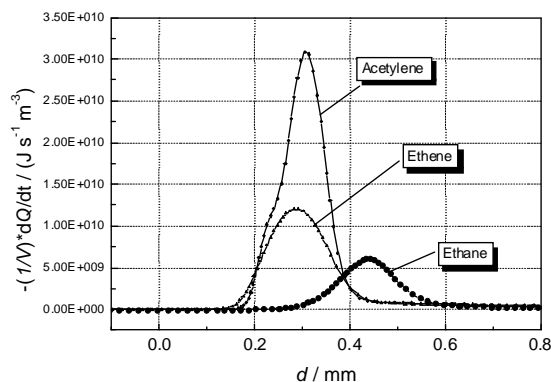


**Key words:** flavonoid, pKa, synchronous fluorescence, second-derivative spectroscopy.

*Rev. Roum. Chim.*, 2014, 59(6-7), 401-405

**Domnina RAZUS, Venera GIURCAN, Maria MITU and Dumitru OANCEA**

Physico-chemical parameters of C2 hydrocarbon-air flames resulted from computed and measured laminar burning velocities



**Key words:** flame, hydrocarbon, laminar burning velocity, flame thickness, heat release rate.

*Rev. Roum. Chim.*, 2014, 59(6-7), 407-415

**Niculae I. IONESCU**

Grain boundary controlled electron transfer in oxide/gas system

$$I = \frac{V_1 - V_2 \ln(t + t_0)}{R}$$

*Rev. Roum. Chim.*, 2014, 59(6-7), 417-419

**Key words:** thermionic emission, logarithmic law.

**Andreea LUNGU, Anton Alexandru CIUCU, Daniela BALA and Constantin MIHAILCIUC**

Investigations of hydroquinone oxidation inside the reaction layer of banana tissue with scanning electrochemical microscopy and double pulse amperometry

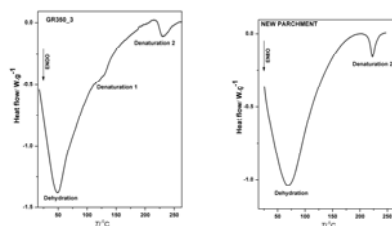


*Rev. Roum. Chim.*, 2014, 59(6-7), 421-428

**Key words:** SECM, DPA, bananotrode, reaction layer tissue.

**Cristina CARȘOTE, Petru BUDRUGEAC,  
Roumiana DECHEVA,  
Nikifor Stefanov HARALAMPIEV,  
Lucreția MIU and Elena BADEA**

Characterization of a Byzantine manuscript  
by infrared spectroscopy and thermal analysis

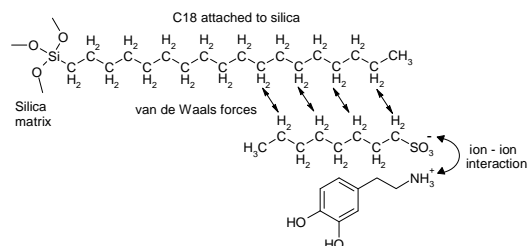


*Rev. Roum. Chim.*, 2014, 59(6-7), 429-436

**Key words:** parchment and leather, FTIR, DSC, MHT, heritage conservation.

**Medeea RADULESCU and Victor DAVID**

Retention study for some neurotransmitters under  
ion-pairing liquid chromatographic mechanism

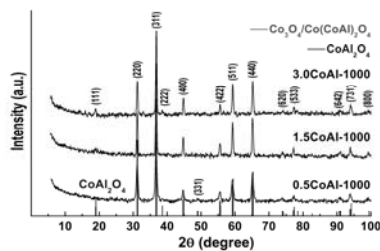


**Key words:** neurotransmitters, ion-pairing, liquid chromatography, partition model, electrostatic model, mobile phase composition.

*Rev. Roum. Chim.*, 2014, 59(6-7), 437-446

**Margarita GABROVSKA, Dorel CRIȘAN,  
Nicolae STĂNICĂ, Dimitrinka NIKOLOVA,  
Lyubima BILYARSKA, Maria CRIȘAN and  
Rumeana EDREVA-KARDJIEVA**

Co-Al layered double hydroxides as precursors  
of ceramic pigment  $\text{CoAl}_2\text{O}_4$ . Part I: Phase  
composition



**Key words:** Co-Al layered double hydroxides, X-ray diffraction, phase composition, spinel-like Co-Al mixed oxides,  $\text{CoAl}_2\text{O}_4$  spinel.

*Rev. Roum. Chim.*, 2014, 59(6-7), 447-452

**Margarita GABROVSKA, Nicolae STĂNICĂ,  
Dorel CRIȘAN, Dimitrinka NIKOLOVA,  
Lyubima BILYARSKA, Maria CRIȘAN and  
Rumeana EDREVA-KARDJIEVA**

Co-Al layered double hydroxides as precursors  
of ceramic pigment  $\text{CoAl}_2\text{O}_4$ . Part II: Magnetic and  
tint properties

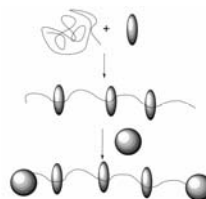


**Key words:** Co-Al mixed oxides, magnetic measurements, Co ions coordination symmetry, coloration of the calcined products,  $\text{CoAl}_2\text{O}_4$  blue pigment.

*Rev. Roum. Chim.*, 2014, 59(6-7), 453-457

**Ana-Maria RESMERITA and Aurica FARCAS**

Polyrotaxane based on polydimethylsiloxane and  
lower rim modified calix[8]arene derivatives

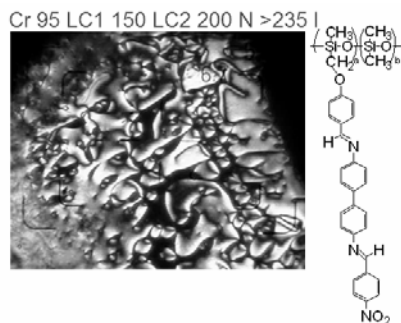


**Key words:** octaallyloxy-*para*-tertbutylcalix[8]arene, polydimethylsiloxane, inclusion complexes, main-chain polyrotaxanes.

*Rev. Roum. Chim.*, 2014, 59(6-7), 459-465

**Carmen RACLES and Vasile COZAN**

New siloxane copolymers with pendant azomethine mesogenic units

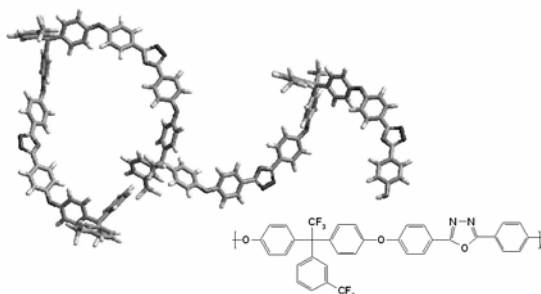


**Key words:** polysiloxane, azomethine, liquid crystal, thermotropic, side-chain.

*Rev. Roum. Chim.*, 2014, 59(6-7), 467-474

**Alina-Mirela IPATE, Corneliu HAMCIUC, Maria BRUMA, Inga A. RONOVA and Mikail I. BUZIN**

Influence of conformational rigidity on physical properties of some poly(1,3,4-oxadiazole-ether)s containing trifluoromethyl groups

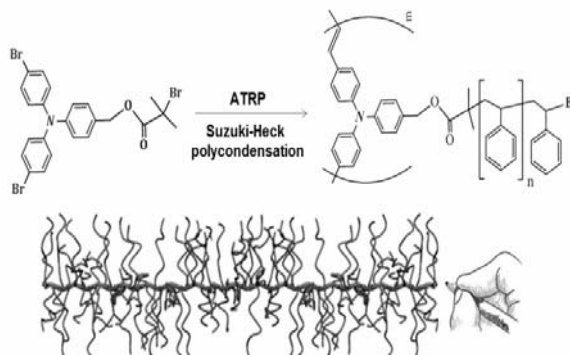


**Key words:** poly(1,3,4-oxadiazole-ether)s, trifluoromethyl group, Kuhn segment, free volume.

*Rev. Roum. Chim.*, 2014, 59(6-7), 475-483

**Oana Iuliana NEGRU and Mircea GRIGORAS**

Oligostyrene grafted poly(4,4'-triphenylamine vinylene)s obtained by combination of ATRP and Suzuki-Heck reactions

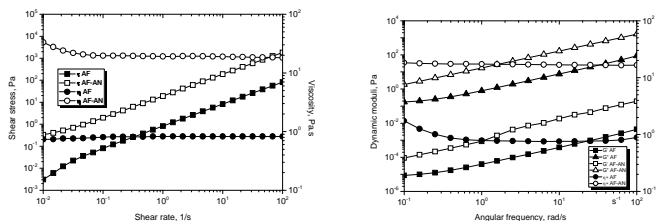


**Key words:** poly(arylene vinylene)s, atom transfer radical polymerization, Suzuki-Heck polycondensation, graft copolymers, optical properties.

*Rev. Roum. Chim.*, 2014, 59(6-7), 485-493

**Simona BISTRICEANU, Camelia MIHĂILESCU, Victor BULACOVSCI, Bogdana SIMIONESCU and Constanța IBĂNESCU**

Rheological characterization of several cyan ethylated ketone resins

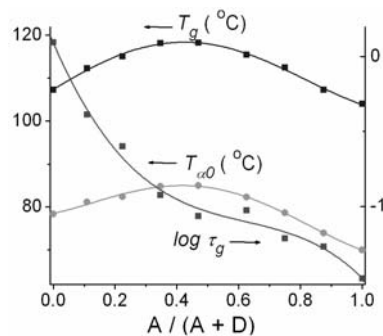


**Key words:** adhesives, amplitude sweep, dynamic moduli, frequency sweep, ketone-based resins.

*Rev. Roum. Chim.*, 2014, 59(6-7), 495-502

**Valentina Elena MUSTEATA,**  
**Vasile Cristian GRIGORAS and**  
**Virgil BARBOIU**

Correlation of dielectric and calorimetric characteristics for an amorphous donor-acceptor copolymer

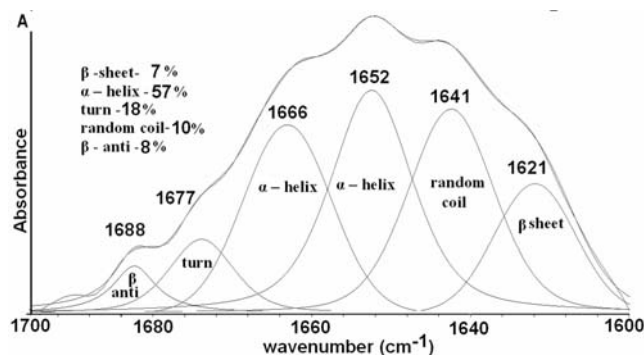


*Rev. Roum. Chim.*, 2014, 59(6-7), 503-509

**Key words:** donor-acceptor interactions, glass transition,  $\alpha$  relaxation.

**Mioara DROBOTA, Irena GRIEROSU,**  
**Iulian RADU and Cipriana STEFANESCU**

Modification of protein conformation can be monitored by Fourier Transform Infrared (FTIR) spectroscopy in oncological patients

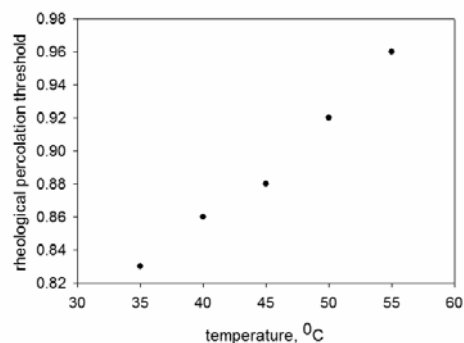


*Rev. Roum. Chim.*, 2014, 59(6-7), 511-515

**Key words:** albumin serum, radiotracers, FTIR spectroscopy.

**Andreea Irina BARZIC**

Temperature implications on the rheological percolation threshold in poly(4-vinylpyridine)/barium titanate nanocomposites



*Rev. Roum. Chim.*, 2014, 59(6-7), 517-521

**Key words:** polymer nanocomposites, rheological percolation, barium titanate nanoparticles.

**Magdalena AFLORI**

Surface characterization of peritoneal dialysis catheter containing silver nanoparticles

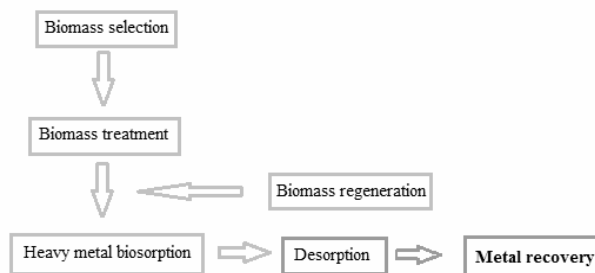


*Rev. Roum. Chim.*, 2014, 59(6-7), 523-526

**Key words:** peritoneal dialysis catheter, helium plasma, silver nitrate, antimicrobial.

**Raluca Maria HLIHOR, Laura BULGARIU, Dana Luminita SOBARIU, Mariana DIACONU, Teresa TAVARES and Maria GAVRILESCU**

Recent advances in biosorption of heavy metals: support tools for biosorption equilibrium, kinetics and mechanism

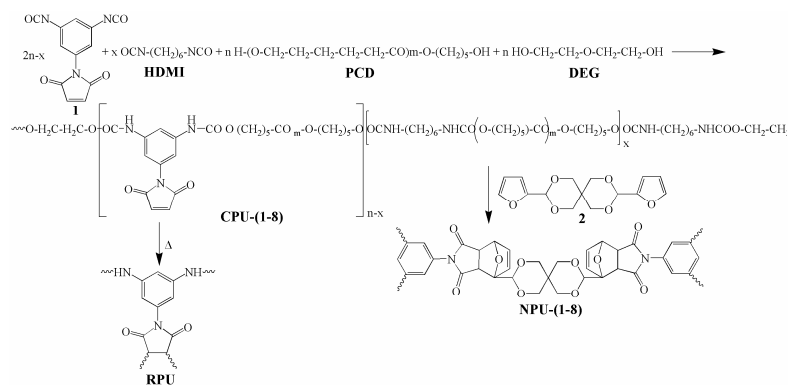


**Key words:** biosorption, desorption, mechanism, modeling and simulation, thermodynamics.

*Rev. Roum. Chim.*, 2014, 59(6-7), 527-538

**Constantin GĂINĂ, Viorica GĂINĂ and Cristian Dragos VARGANICI**

Copoly(ester-urethane) networks containing thermoreversible bonds

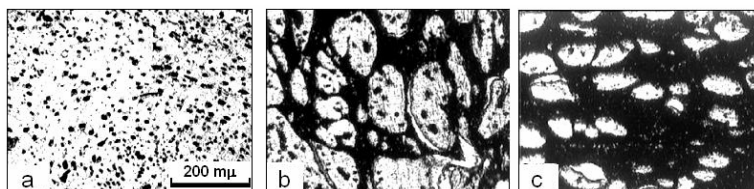


**Key words:** thermoreversible networks, thermal properties, retro-Diels-Alder reaction.

*Rev. Roum. Chim.*, 2014, 59(6-7), 539-546

**Mădălina ZĂNOAGĂ, Yevgen MAMUNYA and Fulga TANASĂ**

Conductive properties of some ternary thermoplastic nanocomposites filled with dispersed powders. A comparative study

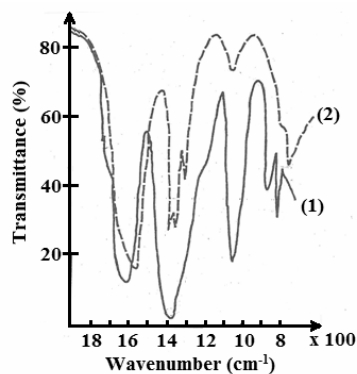


**Key words:** thermoplastic nanocomposites, polyamide, polypropylene, metal, carbon nanotubes.

*Rev. Roum. Chim.*, 2014, 59(6-7), 547-554

**Mihail BÎRZESCU, Marius MILEA, Dan ROȘU, Ionuț LEDEȚI, Madian RAFAILĂ, Viorel SASCA and Mircea NICULESCU**

Synthesis and thermal analysis of the nickel(II) oxalate obtained through the reaction of ethylene glycol with  $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$

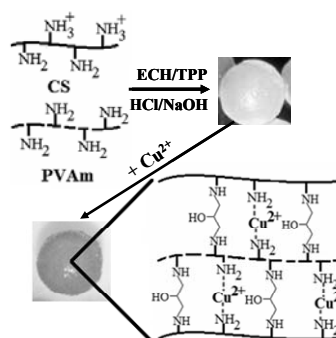


**Key words:** ethylene glycol, homopolynuclear coordination compound, nickel(II) oxalate, thermal analysis, nickel oxide.

*Rev. Roum. Chim.*, 2014, 59(6-7), 555-563

**Ana Irina COCĂRȚĂ and  
Ecaterina Stela DRĂGAN**

Composite microspheres based on chitosan and poly(vinyl amine)

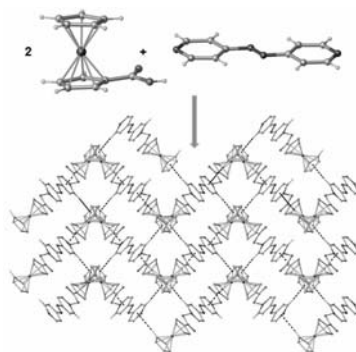


*Rev. Roum. Chim.*, 2014, 59(6-7), 565-573

**Key words:** chitosan, composites, adsorption, heavy metal.

**Angelica VLAD,  
Mirela-Fernanda ZALTARIOV,  
Maria CAZACU, Loredana VACAREANU,  
Sergiu SHOVA and Constantin TURTA**

Hydrogen-bonded supramolecular structure built on the basis of ferrocenecarboxylic acid and 4,4'-azopyridine

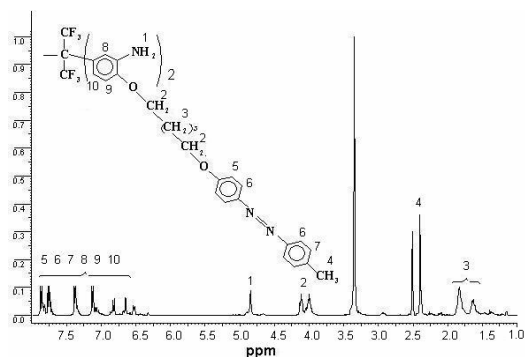


*Rev. Roum. Chim.*, 2014, 59(6-7), 575-583

**Key words:** supramolecular structure, ferrocene, azopyridine.

**Ion SAVA and Thomas KÖPNICK**

Synthesis and characterization of new diamines containing side substituted azobenzene groups

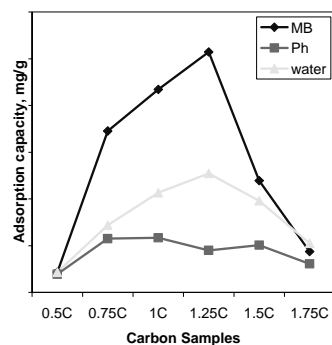


*Rev. Roum. Chim.*, 2014, 59(6-7), 585-592

**Key words:** Williamson reaction, diamine, side azobenzene.

**Maria IGNAT, Vera MEYNEN, Pegie COOL  
and Valeria HARABAGIU**

Surface chemistry – the key-property of templated mesoporous carbons for sorption

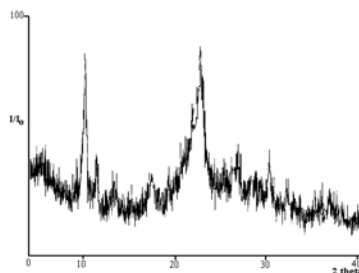


*Rev. Roum. Chim.*, 2014, 59(6-7), 593-597

**Key words:** templated carbon, surface chemistry, sorption property.

**Claudia COBZARU, Corina CERNATESCU and Adriana MARINOIU**

Modified clinoptilolite used for removing azomethines from wastewaters. I.  
The effect of the time of nitric acid treatment on clinoptilolite properties

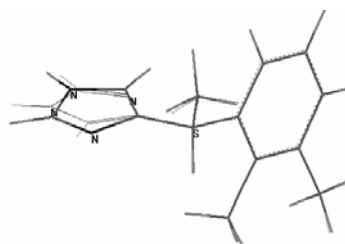


**Key words:** nitric acid treatment, clinoptilolite, removing azomethines from wastewaters.

*Rev. Roum. Chim.*, 2014, 59(6-7), 599-604

**Alexandra GRUIA, Ramona CURPAN, Ana BOROTA, Liliana HALIP, Maria MRACEC and Mircea MRACEC**

Phenyl and imidazole ring rotation in neutral and protonated dexmedetomidine.  
A semiempirical and *ab initio* study

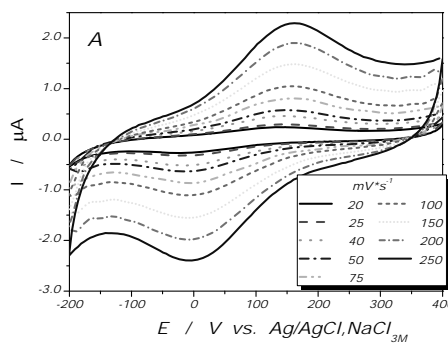


**Key words:** AM1, PM3, HF/6-31G\*\*, 1D energy profiles,  $\alpha_2$ -adrenergic receptors.

*Rev. Roum. Chim.*, 2014, 59(6-7), 605-612

**Georgeta Maria MARES, Adrian NICOARĂ, Graziella Liana TURDEAN and Ionel Cătălin POPESCU**

Electrochemical characterization of Au/L-cysteine/hemin modified electrode



**Key words:** hemin, l-cysteine, self-assembled structures on gold electrodes, cyclic voltammetry, square-wave voltammetry.

*Rev. Roum. Chim.*, 2014, 59(6-7), 613-621