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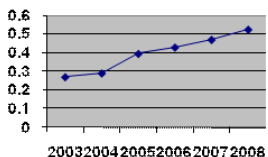
Romanian Academy

Institute of Chemistry Timisoara



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Waste management aspects of Timiș County in recent years Boroș Z., Albulescu M. 1-10

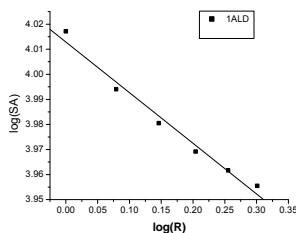


This paper contains an analysis of waste management in Timis County, Romania in the last years. They are presented the evolution of waste quantities correlated with increase of population, and the evolution in collection of recyclable waste. A significant increase of all types of waste quantities, which is due both to population growth, whose number increases with time and lack of interest in recycling. But, recent organized and well-publicized actions have had good results by collecting the large amount of specific waste and should be extended to other waste categories.

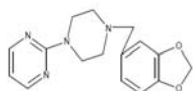
Preliminary study regarding the use of foliar biomass as fertilizer Albulescu M., Chivari A. 11-18



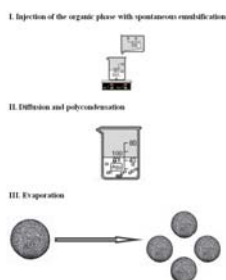
Biomass as chemical solar energy accumulated in the form of vegetable or animal matter is one of the most precious and diverse resource of the earth. A resource that is still unexploited is the leaf litter known to be a natural fertilizer after decomposition. In this research we tried to decompose leaf litter with chemical reagents in order to obtain a liquid fertilizer as well as trying to use foliar biomass in combination with soil. When trying to decompose foliar biomass with chemical reagents the development of the studied plants (petunia, Petunia hybrida, cress, Lepidium sativum) was inhibited. This process occurred in case of using agar gel and in case of the cultivated plants in pots as well. The direct use of foliar biomass in combination with soil, after being preceded by an inhibitory process in the development of the plant, seems to have the role of a fertilizer.



This study reveals that human and bacterial class I and class II aldolases, despite their low sequence similarity, present similar global fractal characteristics of their surfaces. Their surface fractal dimensions correspond to those reported in specific literature for globular proteins. There is one exception, bacterial aldolase class I, which shows a higher surface roughness confirming the dissimilarity of its active sites in comparison to other investigated aldolases and also its distinct evolution. The electrical properties of surfaces for the investigated proteins show that class II of aldolases have higher dipole moments and quite larger contact potentials, explaining the presence of active sites for Zn^{2+} , K^+ and NH_4^+ ions.



FT - IR spectras show that the pyrimidine ring exists in the analyzed pharmaceutical compounds, because these present characteristic absorption bands of the ring. After thermal analysis pyrimidine ring is destroyed because the characteristics bands change or disappear. Besides the presence of pyrimidine ring is also observed various groups attached to it.



Polyether-urethane nanostructures were synthesized in this experimental study by using the technique of interfacial polycondensation combined to spontaneous emulsification. It were used an organic phase which contain lysine diisocyanate ester (LDI) and a lipophilic surfactant (Span®85) in water-miscible solvent (acetone) and an homogeneous aqueous phase formed by water, diol or polyether and a hydrophilic surfactant (Tween®20 or Tween®60). The obtained nanostructures were finally characterized.

Laboratory Testing of Platelet Function by
Aggregometry: What Test Should Be Used?

Maximov D., Lupu A., Bujor C.,
Dragulescu S. I.

47-58



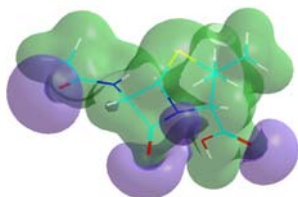
In the last decades, the issue of "aspirin and clopidogrel resistance" was a provocative theme in the medical literature.

So far, there are a lot of studies published in this area, but its definition, diagnosis, etiology and clinical implications remain uncertain.

Conformational Analysis with AM1 Method of the
(3S,5S,6S)-6-Acetylamidopenicillanic Acid. Electronic
Properties.

Ivan D., Mracec M.

59-70



A conformational analysis with the semiempirical AM1 method was performed for (3S,5S,6S)-6-acetylamidopenicillanic acid.

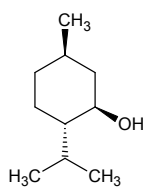
13 distinct conformers were found within 6.66 kcal/mol.

Dependence of some electronic properties of these conformers (HOMO and LUMO energies, dipole moment, v_{min} minimum vibration energy, maximum vibration energy V_{MAX} , zero point vibration energy (ZPVE) and charge densities on atoms S1, N4, N14, O8, O12, O13 and O17) with respect to some geometric characteristics : pseudochirality of the N14 atom, the syn-anti arrangement of the O17 and H28 atoms of the amidic group and the three puckering classes of the thiazolidinic cycle noted with a, b, c.

Solid-Phase Microextraction of Menthol from Peppermint

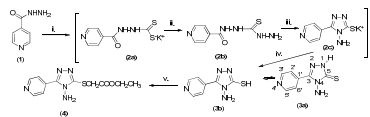
Luca S. A., Ciucanu I.

71-80



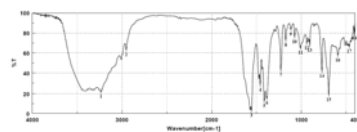
Menthol

The present work presents for the first time the extraction of menthol with a new solid-phase microextraction method using as solid phase a helical solid sorbent [1,2] followed by introduction into a capillary column for a gas chromatographic analysis. The menthol was extracted from sample headspace and also a liquid solution sample and then was analyzed by gas chromatography. The quantitative evaluation was carried out with external standard method both for headspace and liquid solution.



ICS₂ / KOH/EtOH/r.t.; II: a) NH₂H₂O/r.t.; III: NH₂H₂O / Δ; Et: EtCl;
 IV: a) NaOH/H₂O / Δ; b) ClCH₂COOCH₂CH₃ / EtOH / Δ

The present article is aimed towards the structural NMR analysis of 4H-4-amino-3-mercapto-5-(4-pyridyl)-1,2,4-triazole (3) and its product of alkylation (via sodium salt) with ethyl chloroacetate in absolute ethanol. 4H-4-amino-3-mercapto-5-(4-pyridyl)-1,2,4-triazole and 4H-4-amino-5-ethoxycarbonyl-methylsulfanyl-3-(4-pyridyl)-1,2,4-triazole (4) were characterized by IR, ¹H-NMR, ¹³C-NMR spectroscopy and structures were elucidated by 2D-¹H-¹³C-HMBC spectroscopy.



Result of Peak Picking					
No.	Position	Intensity	No.	Position	Intensity
1	3333.07	22.9449	2	2982.48	63.2777
			3	1688.21	2.7586
			4	1488.98	28.1798

Syntheses of novel metal complexes of Cd²⁺ and Cu²⁺ was carried out in aqueous solution, using CdI₂ and CuCl₂·2H₂O as source for metal ions and sodium salt of 4H-4-amino-5-carboxymethylsulfanyl-3-phenyl-1,2,4-triazole as ligand. All the compounds were preliminary characterized by melting point and IR spectroscopy.