

GC-MS ANALYSIS OF SOME ROMANIAN SPICE TINCTURES

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Abstract

The alcoholic extracts of eleven spices (basil, celery, dill, horsetail, lovage, marjoram, milfoil, oregano, parsley, rosemary and thyme) used in the Romanian cuisine were analyzed by GC-MS and sixty two substances were identified. Most of them are antioxidant and antimicrobial compounds which explain some of the plants known

ENZYMATIC ANALYSIS OF GLUCOSE, FRUCTOSE AND SACCHAROSE MIXTURES IN FOOD STUFFS

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Abstract

This paper presents the enzymatic method to evaluate the content of glucose, fructose and sucrose in different varieties of food stuffs, by means of NADH-spectrometric measurements.

STUDY OF THE RAW MATERIALS INFLUENCE ON THE PHYSICO-CHEMICAL INDICATORS OF PREBAKED BREAD

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Abstract

The influence of raw materials , especially yeast type , to the quality of prebaked bread was investigated . Five different types of yeast were used. The volume , porosity, elasticity and moisture were evaluated at prebaked bread , after freezing , storing at freezing temperature , defrozen and final final baking. Physico-chemical characteristics of prebaked bread was compared with the same characteristics of control bread (classically baking bread).

ELIMINATION ACTIVITY OF FREE RADICALS EVALUATION OF ETHANOL EXTRACTS FROM PHANEROGRAM PLANTS BY DPPH METHOD

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Abstract

The purpose of this paper is determining the antiradical activity of the researched vegetal extracts, testing different extraction agents and different solvents in order to assure maximum extraction of the antioxidant compounds, compounds that intercept and inhibit free radicals.

The method for determining the antiradical activity uses the DPPH· stable free radical (2,2-dyphenyl-1 picrylhidrazyl). This radical is often used for testing compounds that act like free radicals inhibitors or as hydrogen donors. The method is quick, easy, simple and doesn't need special equipment.

The researched phanerogram plants were: *Alchemila vulgaris* (aerial part), *Solidago virga-aurea* (aerial part), *Agrimonia eupatoria* (aerial part) and *Veronica officinalis* (aerial part).

COMPARATIVE ANALYSIS OF THE EFFECTS OF EXOGENOUS PROTEIC PRODUCTS ON BREAD PROTEIC VALUE

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Abstract

The increase of the biological value of vegetable proteins has an important role in practical application of proteic supply. The aim of the present study was the assurance of population proteic necessity through bread fortification with four different exogenous proteins and comparative analysis of those effects on bread proteic value. A technological, sensorial and nutritive accepted variant of fortification was used. The results show that the biggest increase of the proteic value of bread was obtained in the case of wheat flour fortification with degreased soy flour, respective sodium caseinate. Sodium caseinate cover in the biggest proportion the lysine deficit.

THE EFFECTS OF BREAD FORTIFICATION WITH SODIUM CASEINATE AND WHEAT GERMS ON DOUGH RHEOLOGY AND QUALITY OF BREAD

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Abstract

Exogenous proteins are added to bakery products to increase nutritional properties. Sodium caseinate (SC) and wheat germ (WG) were incorporate by replacement into wheat flour, and its effects to dough rheology and the quality of bread were evaluated. SC increases water absorption, dough elasticity, and dough strength and decreases dough extensibility. WG generated a slight increase of dough elasticity and dough resistance and decreased dough extensibility. SC increases loaf volume, crumb elasticity and porosity and improved bread texture. WG generated a decrease of loaf volume and overall baking performance. Incorporation of 10% SC increased protein content of bread up to 70.39% while using of WG generated an increase of protein content of bread up to 14.41%. Bread fortification with SC and WG also increased the proportion of essential amino acids.

RP-HPLC DETERMINATION OF β -CAROTENE FROM ORANGE (*CITRUS SINENSIS L.*) FRUITS

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Abstract

The paper presents a method for determination of β -carotene concentration from “Valencia” orange (*Citrus sinensis L.*) fruits (pulp, albedo-peel and flavedo-peel), using the reversed phase- high performance liquid chromatography (RP-HPLC). Carotenoidic pigments extraction was achieved with an organic solvents mixture of petroleum ether: acetone: ethanol 96% (8:1:1, v:v:v) to colorless. For the RP-HPLC analysis it was used an Agilent 1100 system equipped with a Zorbax SB-C18 column, 250 x 4,6 mm and particles size of 5 μ m, UV/VIS detector with variable wavelenght and HPChemStation software. β -Carotene was identified in all the analysed orange fruits parts. The highest β -carotene content was founded in albedo-peel (206.80 μ g/g), and the lowest in flavedo-peel (54.80 μ g/g), while the highest value for total carotenoids content was obtained for flavedo-peel (255.46 μ g/g) and the lowest one for orange pulp (77.72 μ g/g).

THE ROLE OF THE SOLVENT IN THE COORDINATION CHEMISTRY OF VANADIUM (III) AND VANADYL (IV) SYSTEMS

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Abstract

The consecutive replacement of solvent molecules by donor ligands in the coordination sphere of metal cations has been followed by spectrophotometric, potentiometric and conductometric techniques. The determination of the nature of the species in different solvents will indicate the occurrence of ionization, autocomplex formation, anion-complex formation or certain structural features imposed on the complexes by solvent contributions.

THE STUDY OF THE REVERSIBLE OXYGEN-CARRYING COBALT (II) CHELATES

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Abstract

Reversible oxygen sorption has been observed in a number of synthetic cobalt(II) chelates. One of them are bis-salicylaldehyde-ethylenediiminecobalt (II). We present some details about reversible oxygen-carrying Co(II) chelates. The reversible cobalt (II) chelates have been of interest as model compounds in the study of the oxygenation mechanism involved in the very complex natural oxygen carriers like hemoglobine.

GENERAL STRATEGY WITH CHEMPLUS FOR OPTIMAL SEARCH OF CONFORMATIONS FOR FLEXIBLE MOLECULES

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Abstract

A study of the possibilities that a conformational search process to find almost all possible conformers, including the best conformer of a molecule is presented. As molecule model the (3R,5R,6R)-6-acetamidopenicillanic acid was chosen. Two semiempirical MO methods (AM1 and PM3) have been used for geometry optimizations. AM1 gives 8 distinct conformers while PM3 gives 47 distinct conformers. A ratio of 20:1 between the number of starting geometries and the number of resulted conformers assure the discovery of a maximum number of possible conformers.

THE PHYSICOCHEMICAL CHARACTERISTICS OF RED WINES FROM BURGUND VARIETY IN MINIS VINEYARD

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Abstract

This paper is a part of a vast study realized for superior red wines obtained in Minis vineyard. In this study it was followed the evolution of physical and chemical characteristics of superior red wines from Burgund grapes variety obtained in Minis vineyard. By adding external pectolitic enzymatic mixtures a positive influence of physicochemical characteristics for superior red wines from Burgund variety.

PHYSICO - CHEMICAL INTERACTIONS IN THE ANIONIC DYES SOLUTIONS

2. Direct dyes – solvent interactions in the absence of the textile fabrics

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Abstract

For the study of dyes' compatibility in mixtures, it is necessary that their spectral behaviour be known, in the absence of the textile fabrics, but in the presence of the solvent (the water) and the additions from the dyeing bath.

An absorption curve with a marked maximum is specific to a real solution, while an absorption band with intermediary characteristics (diminished absorbance) is specific to particles which interact between themselves forming fine break-up.

The present paper work presents the result of the experimental study of spectral behaviour of C.I. Direct Orange 39, C.I. Direct Red 23 and C.I. Direct Blue 71 dyes, in the absence of textile fabrics, but in the solvents' presence (the water).

A DDSC METHOD FOR STUDYING THERMAL BEHAVIOUR OF THE HUMAN HAIR

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Abstract

We propose a quick method to obtain some kinetic information from the DSC experiments. The method uses the temperatures of extreme and of the two inflection points of a DSC curve (the extreme values on DSC and on its derivative, DDSC) as well as the ratio of the reaction rates at the three points. This way it is less dependent on the choice of the correct baseline. The method is limited to the reaction order model, and may be applied to DTA experiments too, but it offers only the values of the reaction order, n , and of the activation energy, E .

In order to easily read the temperatures of the inflection points we have also calculated the derivative of the DSC curve (DDSC curve). Its shape seems to exhibit more details of the thermal behaviour of the investigated hair. We suppose that the fact that groups of crystalline phases are embedded in slightly different matrices and therefore their denaturation process occurs slightly differently might explain the irregularities noticed on DDSC plot. The DSC curve is assumed to be only the overlapping of this several denaturation processes.

USE OF IN-SITU NMR TO MONITOR THE LIPASE-CATALYZED FORMATION OF SUGAR-CONTAINING HYDROGEL PRECURSORS

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Abstract

Synthesis of sugar-acrylates by transesterification of simple carbohydrates with vinyl-acrylate using immobilized lipase B from *Candida antarctica* (Novozym 435) in organic media was studied. In situ NMR was used to investigate the kinetics of the reaction.

**COMPLEX COMPOUND OF Co(II) WITH LIGAND DERIVED FROM
N,N' – BIS (SALICYLIDENE)- METHYLENEDIAMINE (SALMEN)
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Abstract

In this paper, we used the bis-Schiff base, N,N' –bis(salicylidene)-methylenediamine – known as Salmen – for react with Co(II) at pH domain = [4.5 – 6.5]. A brown precipitate was obtained, which is stable at temperature higher then 200⁰C.

Study of the IR has evidenced that the precipitation form is a complex, while the chemical analyses show that the combination rate of M:L is 1:1. Method based on the precipitation, will be used for the gravimetric determination of Co(II). The precipitate was dried at 105⁰C temperature and weighed as C₁₅H₁₂O₂N₂Co. The average relative error is ± 0.53%. Cu(II), Zn(II), Ni(II), Cr(III), U(VI) and Pd(II) precipitate in the same conditions that Co(II) with Salmen.