International Publications Awards Cairo University

Issue I

September 2007

Dear colleagues,

For the second year in succession, our university is ranked among the top 500 universities in the academic ranking of world universities (ARWU).

We would like to congratulate you on this remarkable achievement knowing that your work has significantly contributed to this noteworthy success.

The purpose of issuing this newsletter is mainly to introduce your work to the academic community and to demonstrate the different research abilities of Cairo University staff members.

As part of our future plan, we aspire to build on our current success; as the weightier challenge is still to come. So in order to keep our rank in its high level we are compelled to increase the number of high quality publications by 10%.

Furthermore, we are likely to increment 100 positions higher in the rank if we are able to increase our international publications by 40%.

We would like to assure you that the administration will spare no effort to support and reinforce these goals. We congratulate all the colleagues who were granted the awards for their international publications of the year 2006 and wish them all the best for their future endeavors.

We are also pleased to inform you that this policy will continue to be in effect for the year 2007.

Prof. Dr. Hossam Kamel	Prof. Dr. Ali Abdel Rahman
Vice – President for graduate studies and research	President
Cairo university	Cairo university

Index

Faculty	Page
Science	1
Engineering	65
Pharmacy	89
Medicine	115
Economic and Policy Science	135
National Institute of Laser Enhanced Sciences	147
National Cancer Institute	153
Arts	167
Veterinary Medicine	174
Agriculture	182
Commerce	188

Faculty of Science

International Publications Awards
Cairo University

الاسم : أ.د / احسان محمد قناوى

القسم : الكيمياء كلية العلوم

DFT and FT-IR analyses of hydrogen bonding in 3-substistuted-3-oxo- arylhydrazonopropanenitriles

Ihsan M. Kenawi and Mohamed H. Elnagdi

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **Spectrochimica Acta 805 810 (2006)**

Abstract

Ab initio calculations, FT-IR and x-ray crystal analysis, indicated that the most stable configuration of 3-oxo-2-(phenylhydrazono)-3-(thien-2-yl)-propionitrile is the anti phenylhydrazone structure 1. Stability of such a conformation, over the possible E-form, 2, that would be stabilized by intramolecular hydrogen bonding, is due to interaction between electron-pair domains of the N, S and O atoms. However, the simulated and experimental IR frequency data indicated intermolecular hydrogen bonding between NH and C≡ N, the latter being lowered to 2214 cm-1. Studies on 3-oxo-3-phenyl-2-(phenylhydrazono)-propionitrile showed the same result, as well as, another intramolecular hydrogen association of the type N─H.....O. This was clearly indicated by the absorbance of the carbonyl stretch at 1605 cm-1.These data indicated the existence of a bifurcated hydrogen bond in 1a and a single intermolecular association in 1b.

Keywords

2-Arylhydrazono-3-oxonitriles; DFT; Vibrational assignment; Bifurcated hydrogen bond; X-ray crystal structure.

الاسم : أ.د / احسان محمد قناوى

القسم : الكيمياء كلية العلوم

DFT Analysis of Diclofenac Activity and Cation Type Influence on the Theoretical Parameters of some Diclofenac Complexes

Ihsan M. Kenawi

ISSN : 0166-1280 **Impact Factor:** 1.045

Journal: **Journal of Molecular Structure 761 151-157 (2006)**

Abstract

The twisted structure of diclofenac sodium that is behind the excessively remarkable reactivity of this drug, was investigated by DFT calculations at the B3LYP/6-311G (d) level of theory. The repulsion forces, existing within the molecule because of the simultaneous presence of the acetate moiety as well as the two Cl atoms, created a twisted (74o) diphenylamine structure to yield a preferred orientation. B3LYP/ 6311G (d) calculations of diclofenac and its complexes, ML2 (M = Ca, Mg, Zn), showed that distortions of the geometric parameters were due to the differing hybridizations depending on the cation type in question. The energy gap values, ΔE, increased in the order Mg>Zn>Ca, pointing out that the energy associated with electron pairing is greatest in the Mg2+ complex, due to the [Ne]3s2 configuration and large charge to radius ratio (3.3) of the metal. The charge density contour plots of the complexes showed the negative charge as condensed around the N atom, indicating a very highly polarized M─N coordinate bond. Both the acid form and sodium salt displayed the typical weak N─H…….O hydrogen bond association which is absent in the Mg, Ca and Zn complexes. The distance between H and O in all three (3.837 Mg, 3.307 Ca and 4.277 Zn oA) exceeded the possible limit of 3.0 oA.

Keywords

Densityfunctionaltheory; Dipolemoments; Contourchargedensityplots; Geometricparameters; Stericconstraints

الاسم : أ.د / احمد سامي عبد الشكور شوالي

القسم : الكيمياء كلية العلوم

Synthesis and Biological Activity of New Functionalised Cyclohepta[4,5] Thieno[2,3-D][1 ,2,4] Triazolo[4,3-A]Pyrimidin-5-Ones

Ahmad S. Shawalia*, Nasser A. H. Ali**, Ahmed S. Ali** and Dalia A. Osman**

ISSN : 0308-2342 **Impact Factor:** 0.319

Journal: **Pyrimidin 5-ones of chemical resarch 327-332 (2006)**

Abstract

Various functionalised derivatives of 5H-cyclohepta[4.5]thieno[2,3-d][1.2,4]triazolo[4.3-a]pyrimidin-5-one were synthesised via reaction of hydrazonoyl halides (1) with either 1.2.3.5.6.7.8.9-octahydro-2-thioxo-4H-cyclohepta¬[4.5]thieno[2.3-d]pyrimidin-4-one (2) or its methylthio derivative (3). The mechanism and the regioselectivity of the studied reactions are investigated and Discussed.

Keywords

Hydrazonoyl halides; Fused thiophenes; Pyrimidines; 1,2,4-Triazoles; Thiohydrazonates.

International Publications Awards
Cairo University

الاسم : أ.د / احمد سامي عبد الشكور شوالي

كلية العلوم القسم : الكيمياء

Reactions of Nitrilimines with Heterocyclic Amines and Enamines Convenient Methodology for Synthesis and Annulation of Heterocycles

Ahmad S. Shawali* and Mastoura M. Edrees**

ISSN : 1424-6376 **Impact Factor:** 0.694

Journal: **arkivoc 292-365 (2006)**

Abstract

This review summarizes the reactions of nitrilimines, genearted in situ by base-catalyzed dehydrohalogenation of the respective hydrazonoyl halides, with aminoazoles, aminoazines and various types of enamines. It also presents the highlights of recent developments in the utility of such reactions for synthesis of a variety of heterocycles which are not obtainable by other synthetic means. Such reactions provide convenient strategies for synthesis and annulation of heterocycles. It covers the literature from 1985 to mid 2006.

Keywords

Aminoazole; aminoazines; 1,3-dipolar cycloadditions; Hydrazonoyl halides.

الاسم : أ.د / احمد سامي عبد الشكور شوالي

القسم : الكيمياء كلية العلوم

New Triheterocyclic Ring System. Synthesis of Functionalized Pyrazolo[3,4-c:1]pyrimido[1 ,2-b][1,2,4,5]tetrazine Derivative

Mosselhi A. N. Mosselhi, Ahmad M. Hussein and Ahmad Sami Shawali

ISSN : 0009-4536 **Impact Factor:** 0.617

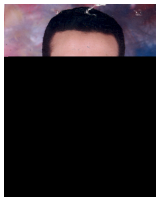
Journal: **chinese chemical society 923-929 (2006)**

Abstract

New functionalized pyrazolo[3.4-d]pyrimido[I.2-][I,2,4,S]tetrazine derivatives 6a-q were synthe¬sized via reaction of the hydrazonoyl halides la-q with S-amino-l-phenyl-6-thioxo-pyrazolo[3,4-d]pyr¬imidin-4-one :1 and its 2-methylthio derivative 3. The mechanism and the regioselectivity of the studied reactions have been discussed.

Keywords

Hydrazonoyl Halides; Amidrazones; Thiohy Drazonates.



الاسم : د / احمد فهمى احمد يوسف

كلية العلوم القسم : الكيمياء

Utilization of Ion-Associate Formation in Conductimetric Determination of Some Antihistamines in Pharmaceutical Formulations

Ahmed F. A. Youssef and Raafat A. Farghali

ISSN : 1205-6685 **Impact Factor:** 0.5

Journal: **CAN JNAL SCI SPECT 288 296 (2006)**

Abstract

A simple and reliable titrimetric method has been developed for determination of some antihistamine compounds, namely cetirizine hydrochloride (CTZ. Cl), hydroxyzine hydrochloride (HDZ.Cl) and diphenhydramine hydrochloride (DPH.Cl).The method is based on the titration of these compounds with phosphotungestic(PT),phosphomolybdic(PM) and silicomolybdic (SM) acids. The endpoint was located by conventional and first derivative conductimetric methods. The data were further treated by using Boltezmann sigmoid method, where more sharp endpoints were obtained. The method allowed the determination of CTZ. Cl, HDZ.Cl and DPH.Cl within the ranges 5.13-30.78, 2.07-16.56 and 1.47-11.74 mg using PT acid, 5.13-25.65, 2.07 - 16.56 and 1.47-11.74 mg using PM acid and 5.13-25.65, 2.07-16.56 and 2.93-11.74 mg using SM acid, respectively. The method was further applied successfully to some dosage forms containing these compounds, and the results obtained were compared favourably with those obtained using the pharmacopoeial methods. The results were validated statistically and by using standard addition technique through recovery.

Keywords

Cetirizine Hydrochloride; Hydroxyzine Hy- Drochloride; Diphenhydramine Hydrochloride; Conductimetric Titration; Pdic Acid; Heteropoly Acids.

الاسم : د / السيد محمد عبد الحميد

كلية العلوم القسم : الفلك والارصاد الجويه

A Study of Solar Radiation Climate at Cairo Urban Area, Egypt and Its Environs

S.M.Robaa

ISSN : 0899-8418 **Impact Factor:** 1.622

Journal: **INT J CLIMATOL 1913 1928 (2006)**

Abstract

The measured values of the hourly global solar radiation, G, and its diffuse component, D, on a horizontal surface for a 12-year period (1992 – 2003) have been collected and used to examine the solar radiation characteristics in the urban area of Cairo, Egypt.The corresponding values of the diffuse fraction of global radiation, K, have been calculated. Diurnal variations of the results have been investigated. Also, the daily total values and their monthly and seasonal means, as well as their frequency distributions, have been calculated and investigated. The results reveal that Cairo has annual mean values of G, D,and K equal to 18.57, 6.10 MJ m−2 and 0.35, respectively. The seasonal and climatic effects on the fluctuation of the results are discussed. These effects were particularly large during the winter and spring months owing to the high fluctuation of the atmospheric conditions with respect to the amount of water content, clouds, and concentration of aerosol and dust particles. It was found that the reduction of G due to the effect of clouds is small (2.8%), which in turn reflects the low degree of cloudiness over Cairo due to the impacts of urbanization. A comparative study has also been done to investigate the effect of urbanization processes on the global radiation values received at urban Cairo. It was found that G values received during the non-urbanized period (1969 – 1973) highly exceeded the radiation values received during the recent urbanized period (1999 – 2003) for all months of the year, and the annual mean of the relative reduction was found to be 17.63%.

Keywords

Urbanization; Industrialization; Urban Areas; Urban Cairo; Solar Radiation; Global Solar Radiation; Diffuse Solar Radiation; Diffuse Fraction of Global Solar Radiation

International Publications Awards
Cairo University

الاسم : أ.د / السيد محمد عبد الرحمن

القسم : الجيوفيزياء كلية العلوم

A Least-Squares Variance Analysis Method for Shape and Depth Estimation from Gravity Data

E.M. Abdelrahman,E.R. Abo-Ezz, K.S. Essa, T.M. El-Araby and K.S. Soliman

ISSN : 1742-2132 **Impact Factor:** 0.86

Journal: **J GEOPHYS ENG 143-153 (2006)**

Abstract

We have developed a simple method to estimate the shape (shape factor) and the depth of a buried structure simultaneously from modified first moving average residual anomalies (second moving average residuals) obtained from gravity data using filters of successively greater window lengths. The method is based on computing the variance of the depths determined from all second moving average residual anomaly profiles using the least-squares method for each shape factor. The minimum variance is used as a criterion for determining the correct shape and depth of the buried structure. When the correct shape factor is used, the variance of the depths is always less than the variances computed using wrong shape factors. The method is applied to synthetic data with and without random errors, complex regional anomalies and interference from neighbouring structures, and tested on a field example from the USA.

Keywords

Gravity Interpretation; Moving Average Method; Least-Squares Method; Variance Analysis.

International Publications Awards
Cairo University

الاسم : أ.د / السيد محمد عبد الرحمن

القسم : الجيوفيزياء كلية العلوم

A Least-Squares Depth-Horizontal Position Curves Method to Interpret Residual SP Anomaly Profiles

E.M. Abdelrahman, K.S. Essa, E.R. Abo-Ezz and K.S. Soliman and T. M. El-Araby

ISSN : 1742-2132 **Impact Factor:** 0.86

Journal: **J GEOPHYS ENG 252-259 (2006)**

Abstract

In this paper, we have developed a least-squares analysis method to estimate not only the depth and shape but also to determine the horizontal position of a buried structure from the residual SP anomaly profile. The method is based on normalizing the residual SP anomaly using three characteristic points and their corresponding distances on the anomaly profile and then determining the depth for each horizontal position of the buried structure using the least-squares method. The computed depths are plotted against the assumed horizontal positions on a graph. The solution for the depth and the horizontal position of the buried structure is read at the common intersection of the curves. Knowing the depth and the horizontal position and applying the least-squares method, the shape factor is determined using a simple linear equation. Procedures are also formulated to estimate the polarization angle and the electric dipole moment. The method is semi-automatic and it can be applied to short or long residual SP anomaly profiles. The method is applied to synthetic data with and without random noise. The validity of the method is tested on a field example from Turkey. In all cases, the model parameters obtained are in good agreement with the actual ones.

Keywords

SP interpretation; Depth; Horizontal position; Shape determinations least-squares method.

International Publications Awards
Cairo University

الاسم : أ.د / السيد محمد عبد الرحمن

كلية العلوم القسم : الجيوفيزياء

Self-Potential Data Interpretation Using Standard Deviations of Depths Computed from Moving-Average Residual Anomalies

E.M. Abdelrahman, K.S. Essa, E.R. Abo-Ezz and K.S. Soliman

ISSN : 0016-8025 **Impact Factor:** 0.717

Journal: **GEOPHYS PROSPECT 409-423 (2006)**

Abstract

We have developed a least-squares minimization approach to determine simultane- ously the shape (shape factor) and the depth of a buried structure from self-potential (SP) data. The method is based on computing the standard deviation of the depths determined from all moving-average residual anomalies obtained from SP data, using filters of successive window lengths for each shape factor. The standard deviation may generally be considered a criterion for determining the correct depth and shape factor of the buried structure. When the correct shape factor is used, the standard deviation of the depths is less than the standard deviations computed using incorrect shape factors. This method is applied to synthetic data with and without random er- rors, complicated regionals and interference from neighbouring sources, and is tested on a known field example from Turkey. In all cases, the shape and depth solutions obtained are in a good agreement with the actual values.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / ثروت محمود الشربينى

القسم : الفيزياء كلية العلوم

Measurement of Electron Density Utilizing the Hα-Line from Laser Produced Plasma in Air

A.M. El Sherbini *, H. Hegazy ** and Th.M. El Sherbini *

ISSN : 0584-8547 **Impact Factor:** 2.332

Journal: **SPECTROCHIM ACTA B 532 539 (2006)**

Abstract

The electron density in a laser produced plasma experiment was measured utilizing the Stark broadening of the Hα-line at 656.27 nm. This line results from the interaction of the Nd:YAG laser at the fundamental wavelength of 1.06 μm with a plane solid aluminum target in a humid air. The measurements were repeated at several delay times (0–10 μs) and at a fixed gate time of 1 μs. The electron density from the optically thin Al II- line at 281.62 nm was measured in parallel from the same spectra. The electron density was found in the range from 1018 cm− 3 down to 6×1016 cm− 3 at longer delay time. The electron density from the Hα-line using the Griem's standard theory was compared with the predictions of other model due to Gigosos et al. The agreement between the measured electron density from both the Hα-line and the Al II-line would confirm the reliability of utilizing the Hα-line as an electron density standard reference line in LIBS experiments. Several important features characterize the Hα-line: it is a well isolated line, it gives large signal to background ratio, it lasts a long time after the termination of the laser (up to 10 μs), its Stark width is relatively large and does not exhibit self-absorption.

Keywords

LIBS; Hydrogen; Stark broadening; Electron density.

International Publications Awards
Cairo University

الاسم : أ.د / حسنى محمد سيد حسانين

كلية العلوم القسم : الفلك والارصاد الجويه

Variability of Summer Temperature over Egypt

*H.M. Hasanean and **H. Abdel Basset

ISSN : 0899-8418 **Impact Factor:** 1.622

Journal: **INT J CLIMATOL 1619-1634 26 (2006)**

Abstract

Variations of summer temperature over Egypt have been studied using the data of 19 stations. The analysis of these data shows that the Surface temperature is a stable climate element where its coefficient of variation (COV) is found to be low during summer. The time sequence of cumulative seasonal mean (CSM) is shown to exhibit bounded, oscillatory, non-periodic behavior. The boundedness of the oscillation support the notion of climate compensation; i.e. that spells of cold must eventually follow spells of warm. The trend analysis of the time series of our stations shows Striking positive trend values during the last 20 years, this could be attributed not only to human activities but also to atmospheric circulation changes. Spectral analyses of the monthly values of the nineteen stations were made. It's found that the first harmonic plays a dominant role in the regional climatological variations in Egypt, it explains more than 38% of the amplitude variations and may be related to the sunspot cycle, which affected summer temperature over Egypt. Other harmonics may be related to El Nino Southern Oscillation (ENSO) cycle, Quasi Biennial Oscillation (QBO) cycle and solar inertial motion cycle. Each of them have 9% approximately contribution to summer temperature in Egypt, so its influence on summer temperatures in the area is not so much.

Keywords

Summer temperature; Cumulative periodogram; Trends; ENSO; QBO; Solar inertia motion.

الاسم : أ.د / حمدى محمود حسانين

كلية العلوم القسم : الكيمياء

Novel Route to 4-Aminopyrazoles and Aminopyrazolo [4,3-b]pyridines

AbdeELatif M. Salaheldin Tayseer A. Abdallah, Naglaa F. Radwan and Hamdi M. Hassaneen.

ISSN : 0932-0776 **Impact Factor:** 0.798

Journal: **Naturforsch. 61b 1158 -1161 (2006)**

Abstract

3-0xo-2-arylhydrazononitriles 6 are readily converted into 4-aminopyrazoles 1 via reaction with a-haloketones, chloroacetonitrile and ethyl chloroacetate. The aminopyrazoles are readily converted into aminopyrazolo[4,3-b]pyridines upon treatment with malononitrile. Compounds are readily dia¬zotized to yield unstable diazonium salts that readily cyclized into pyrazoloL4,J-c]pyridazines.

Keywords

Arylhydrazononitriles; Aminopyrazoles; A-Haloketones, Aminopyrazolo [4 ,J-b)pyridines; Pyrazolo [4 .3-c]pyridazine

الاسم : أ.د / سامى حنفى محمود علام

كلية العلوم القسم : الفيزياء

Fine-structure calculations of energy levels, oscillator strengths, and transition probabilities for sodium-like ions (Co XVII–Kr XXVI) W.O

Younis *, S.H. Allam ** Th.M. El-Sherbini **

ISSN : 0092-640X **Impact Factor:** 2.406

Journal: **ATOM DATA NUCL DATA 187 205 (2006)**

Abstract

We have calculated fine-structure energy levels, oscillator strengths and transition probabilities for transitions among the terms belonging to the 1s22s22p6ns (2S), 1s22s22p6np (2P), 1s22s22p6nd (2D) (n = 3, 4, 5), and 1s22s22p6nf (2F) (n = 4, 5) configurations. The calculations are based upon the general configuration-interaction code CIV3 of Hibbert which uses orthonormal orbitals of radial func- tions expressed as superpositions of normalized Slater-type orbitals. Our calculated values are compared with experimental and other theoretical results where a satisfactory agreement is found. We also report on some unpublished energy values and oscillator strengths.
2006 Published by Elsevier Inc.

Keywords

الاسم : أ.د / عبده عثمان عبدالحميد

القسم : الكيمياء كلية العلوم

A Convenient Synthesis of 1-Amino-4-methyl-4H-3-thia-4,5a,10 triazacyclopenta[a]fluoren-5-ones and Some New 2,3-Dihydro-1,3,4-thiadiazoles

Abdou O. Abdelhamid*, Ahmed H. Elghandour**, Nora A. Rateb* and Ahmed M. Awad**

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **Phosphorus Sulfur 181 1637-1646 (2006)**

Abstract

1-amino-4-methyl-4H-3-thia-4,5a,10-triazacyclopenta-[a]fluoren-5-one and 6-methy l6H,9H-thia-4b,6,9,11,12-pentaazaindeno[1,2-a]-fluorene-5,8-dione derivativeswere prepared from 2-methyl-1-oxo-3-thioxo-2,4,9b-trihydropyrimidino[1,6-a]benzimidazole 4-carbonitrile. Also, 2,3-dihydro-1,3,4-thidazoles were synthesizedvia a reaction of hydrazonoyl chlorides with 3-(methylamino)-2-substituted thioxopropanenitrile.Structures of newly synthesized compounds were elucidatedon the basis of elemental analyses, spectral data, and alternative methods synthesiswhenever possible.

Keywords

Halo ketones; Isothiocyanate; Nitrilimine; Pyrimido [1,6- a] benzimidazole.

International Publications Awards
Cairo University

الاسم : أ.د / عبده عثمان عبدالحميد

القسم : الكيمياء كلية العلوم

Reactions With Hydrazonoyl Halides45: Synthesis of Some New Triazolino [4,3-a] pyrimidines, Pyrazolo [3,4-d] pyridazines, Isoxazolo [3,4-d] pyridazines, and Thieno [2,3-b] pyridines

Abdou O. Abdel hamid, and Ali A. Al-Atoom

ISSN : 0039-7911 **Impact Factor:** 0.86

Journal: **Synthetic Communications 36 97-110 (2006)**

Abstract

Abstract:Triazolino[4,3-a]pyrimidines pyrazolo[3,4-d]pyridazines and isoxazolo[3,4-d] pyridazines were synthesized from hydrazonoyl halides. Also, 3-aminothieno[2,3-b] pyridines and pyrimidino[40,50:4,5]thieno[2,3-b]pyridines were synthesized from cynothioacetamide. Structures of the newly synthesized compounds were established on the basis of elemental analyses and spectral data.

Keywords

Hydrazonoyl halides;Isoxazolo[3,4-d]pyridazines; Pyrazolo[3,4-d]pyrida-zines; Triazolino[4,3-a]pyrimidine; Thieno[2,3-b]pyrimidines

الاسم : أ.د / عبده عثمان عبدالحميد

القسم : الكيمياء كلية العلوم

Reactions of Hydrazonoyl Halides 471: Synthesis of Some New 2,3-dihydro1,3,4-thiadiazoles, Triazolo[4,3-a]pyrimidines, and Pyrazolo[3,4-d]pyridazines with Expected Biological Activity

Yasser H. Zaki*, Sayed A. Ahmed*, Ahmed M. Hussein* and Abdou O. Abdelhamid **

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **Phosphorus Sulfur 181 825-837 (2006)**

Abstract

2,3-dihydro-1,3,4-thiadiazoles, triazolino[4,3-a]pyrimidines, and pyrazolo[3,4-d]pyridazines were synthesized in good yields from reactions of hydrazonoyl halides with alkyl carbodithioates, pyrimidine-2-thione, and substituted prop-2-ene-1-one, respectively. All structures of the newly synthesized compounds were elucidated by elemental analysis, spectral data, and an alternative synthesis method. Some of the new compounds were tested towards bacteria and fungi.

Keywords

2,3-Dihydro-1,3,4-thiadiazolines; cycloaddition; pyrazolo[3,4-d]pyridazines; triazolino[4,3-a]pyrimidines

International Publications Awards
Cairo University

الاسم : أ.د / عبده عثمان عبدالحميد

كلية العلوم القسم : الكيمياء

Synthesis and Reactions of 2-Chloro-2-(hydroximino)-1-(4-methyl-2-phenylthiazol-5-yl)ethanone

Abdou O. Abdelhamid *, Ahmed H. Elghandour **, Sayed A. Ahmed ** and Yasser H. Zaki **

ISSN : 0022-152X **Impact Factor:** 0.735

Journal: **J HETEROCYCLIC CHEM 43 249-254 (2006)**

Abstract

3-Nitrosoimidazo[1,2-a]pyridine, 3-nitrosoimidazo[1,2-a]pyrimidine, 3nitrosoquinoxaline, 2-nitroso-4H-benzo[b]thiazine, 2-nitroso-4H-benzo[b]oxazine,isoxazoles, isoxazolo[3,4-d]pyridazines and pyrrolo[3,4-d]isoxazole 4,6-dione were synthesized from 2-chloro-2-(hydroximino)-1-(4-methyl-2 phenylthiazol-5-yl)ethanone and different reagents. Structures of the newly synthesized compounds were confirmed by elemental analysis and spectral data.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / عيد حسن عبد الرحمن

القسم : الرياضيات كلية العلوم

On the Coefficients of Integrated Expansions of Bessel Polynomials

E.H. Doha∗ and H.M. Ahmed**

ISSN : 0377-0427 **Impact Factor:** 0.569

Journal: **J COMPUT APPL MATH 187 58-71 (2006)**

Abstract

A new formula expressing explicitly the integrals of Bessel polynomials of any degree and for any order in terms of the Bessel polynomials themselves is proved.Another new explicit formula relating the Bessel coefficients of an expansion for infinitely differentiable function that has been integrated an arbitrary number of times in terms of the coefficients of the original expansion of the function is also established.An application of these formulae for solving ordinary differential equations with varying coefficients is discussed.

Keywords

Bessel polynomials; Spectral methods; Expansion coefficients.

International Publications Awards
Cairo University

الاسم : أ.د / عيد حسن عبد الرحمن

القسم : الرياضيات كلية العلوم

Recurrences and Explicit Formulae for the Expansion and Connection Coefficients in Series of Classical Discrete Orthogonal Polynomials

E. H. DOHA* and H. M. AHMED**

ISSN : 1065-2469 **Impact Factor:** 0.291

Journal: **INTEGR TRANSF SPEC F 17 11-15 (2006)**

Abstract

Two formulae expressing explicitly the difference derivatives and the moments of a discrete orthogonal polynomials {Pn(x): Meixner, Kravchuk and Charlier} of any degree and for any order in terms of Pn(x) themselves are proved. Two other formulae for the expansion coefficients of a general-order difference derivatives □q f(x), and for the moments x□q f(x), of an arbitrary function f(x) of a discrete variable in terms of its original expansion coefficients are also obtained. Application of these formulae for solving ordinary difference equations with varying coefficients, by reducing them to recurrence relations in the expansion coefficients of the solution, is explained. An algebraic symbolic approach (using Mathematica), in order to build and solve recursively for the connection coefficients between two families of Meixner, Kravchuk and Charlier, is described. Three analytical formulae for the connection coefficients between Hahn–Charlier, Hahn–Meixner and Hahn–Kravchuk are also developed.

Keywords

Hahn; Meixner; Kravchuk and Charlier polynomials; Expansion coefficients; Recurrence relations; Linear

International Publications Awards
Cairo University

الاسم : أ.د / عيد حسن عبد الرحمن

القسم : الرياضيات كلية العلوم

Recurrence Relation Approach for Expansion and Connection Coefficients in Series of Hahn Polynomials

E. H. DOHA* and H. M. AHMED**

ISSN : 1065-2469 **Impact Factor:** 0.291

Journal: **INTEGR TRANSF SPEC F (2006)**

Abstract

A formula expressing explicitly the difference derivatives of Hahn polynomials of any degree and for any order in terms of Hahn polynomials themselves is proved. Another explicit formula, which expresses the Hahn expansion coefficients of a general-order difference derivative of an arbitrary polynomial of a discrete variable in terms of its original Hahn coefficients, is also given. A formula for the Hahn coefficients of the moments of one single Hahn polynomial of certain degree is proved. A formula for the Hahn coefficients of the moments of a general-order difference derivative of an arbitrary polynomial of a discrete variable in terms of its Hahn coefficients is also obtained. Application of these formulae for solving ordinary difference equations with varying polynomial coefficients, by reducing them to recurrence relations in the expansion coefficients of the solution, is explained. An algebraic symbolic approach (using Mathematica) in order to build and solve recursively for the connection coefficients between Hahn–Hahn, Meixner–Hahn, Kravchuk–Hahn and Charlier–Hahn is also developed.

Keywords

Hahn; Meixner; Kravchuk and Charlier polynomials; Hahn expansion coefficients; Recurrence relations; Linear difference equations; Connection coefficients.

الاسم : أ.د / فاتن احمد فؤاد نور الدين

القسم : الكيمياء كلية العلوم

Synthesis and Thermal Characterization of New Ternary Chelates of Piroxicam and Tenoxicam with Glycine and Dl-Phenylalanine and some Transition Metals

M.A. Zayed, F.A. Nour El-Dien, Gehad G. Mohamed and Nadia E.A. El-Gamel

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **SPECTROCHIM ACTA A ,A64 216-232 (2006)**

Abstract

The ternary chelates of piroxicam (Pir) and tenoxicam (Ten) with Fe(II), Fe(III), Co(II), Ni(II), Cu(II) and Zn(II) in the presence of various amino acids such as glycine (Gly) or dl-phenylalanine (PhA) were prepared and characterized with different physicochemical methods. IR spectra confirm that Pir and Ten behave as a neutral bidentate ligand coordinated to the metal ions via the pyridine-N and carbonyl group of the amide moiety. Gly molecule acted as a uninegatively monodentate ligand and coordinate to the metal ions through its deprotonated carboxylic group. In addition, PhA acted as a uninegatively bidentate ligand and coordinate to the metal ions through its deprotonated carboxylic and amino groups. The solid reflectance spectra and magnetic moment measurements confirm that all the chelates have octahedral geometrical structures while Cu(II)- and Zn(II)-ternary chelates with PhA have square planar geometrical structures. Thermal behaviour of the complexes is extensively studied using TG and DTA techniques. TG results show that water molecules (hydrated and coordinated) and anions are removed in the first and second steps while Gly, PhA, Pir and Ten are decomposed in the next and subsequent steps. The pyrolyses of the chelates into different gases are observed in the DTA curves as exo- or endothermic peaks. Also, phase transition states are observed in some chelates. Different thermodynamic parameters are calculated using Coats–Redfern method and the results are interpreted.

Keywords

Piroxicam and tenoxicam ternary chelates; IR; Magnetic and diffuse reflectance spectra; Thermal analyses.

الاسم : أ.د / فاتن احمد فؤاد نور الدين

القسم : الكيمياء كلية العلوم

Spectrophotometric Determination of Flucloxacillin and Dicloxacillin in Pure and Dosage Forms

F.A. Nour El-Dien, Gehad G. Mohamed and Eman Y.Z.A. Farag

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **SPECTROCHIM ACTA A ،A64 210-215 (2006)**

Abstract

A simple, rapid and accurate spectrophotometric method for the determination of antibiotic drugs, flucloxacillin (Fluclox) and dicloxacillin (Diclox), in pure form and different pharmaceutical preparations has been developed. The charge transfer (CT) reactions between Fluclox and Diclox as electron donors and 7,7,8,8 tetracyanoquinodimethane (TCNQ) and tetracyanoethylene (TCNE) as -acceptors to give highly coloured complex species have been spectrophotometrically studied. The optimum experimental conditions for these CT reactions have been studied carefully. Beer's law is obeyed over the concentration ranges of 4–180 μgmL−1 and 4–70 μgmL−1 for Fluclox and Diclox drugs using TCNQ and TCNE reagents, respectively. The Sandell sensitivities (S) are found to be 0.016–0.035 μgcm−2 and 0.011–0.016 μgcm−2 for Fluclox and Diclox, respectively, which indicate the high sensitivity of the proposed method. The relative standard deviations (R.S.D.: 0.08–0.49 and 0.15–0.80) for the determination of Fluclox and (R.S.D.: 0.05–0.75 and 0.13–0.75) for Diclox were obtained for four to six replicates using TCNQ and TCNE reagents, respectively, refer to the high accuracy and precision of the proposed method. These results are also confirmed by the between-day precision and the percent recovery of 99.90–100.1 and 99.60–100.4 for Fluclox and 99.90–100.5 and 99.40–100.1 for Diclox using TNCQ and TCNE reagents, respectively. The results obtained for the two reagents are comparable with those obtained by the official method.

Keywords

Pharmaceutical Preparations; Spectrophotometric; Fluclox; Diclox Determination; 7,7,8,8-Tetracyanoquinodimethane (TCNQ); Tetracyanoethylene

الاسم : أ.د / فاتن احمد فؤاد نور الدين

القسم : الكيمياء كلية العلوم

Spectrophotometric Study of the Reaction Mechanism Between DDQ As-Acceptor and Potassium Iodate and Flucloxacillin and Dicloxacillin Drugs and Their Determination in Pure and in Dosage Forms

Gehad G. Mohamed , F.A. Nour El-Dien and Eman U. Farag

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **SPECTROCHIM ACTAA A65 11-19 (2006)**

Abstract

Two simple and accurate spectrophotometric methods are presented for the determination of -lactam drugs, flucloxacillin (Fluclox) and dicloxacillin (Diclox), in pure and in different pharmaceutical preparations. The charge transfer (CT) reactions between Fluclox and Diclox as electron donors and 2,3-dichloro-5,6-dicyano-p-benzoquinone (DDQ) -acceptor and potassium iodate via oxidation reduction reaction where the highly coloured complex species or the liberated iodine have been spectrophotometrically studied. The optimum experimental conditions have been studied carefully. Beer's law is obeyed over the concentration range of 2–450 μgml−1 for Fluclox and 10–450 μgml−1 for Diclox using DDQ reagent and at 50–550 μgml−1 for Fluclox and 50–560 μgml−1 for Diclox using iodate method, respectively. For more accurate results, Ringbom optimum concentration range is calculated and found to be 6–450 and 15–450 μgml−1 for Fluclox and Diclox using DDQ, respectively, and 65–550 and 63–560 μgml−1 for Fluclox and Diclox using iodine, respectively. The Sandell sensitivity is found to be 0.018 and 0.011 μgcm−2 for DDQ method and 0.013 and 0.011 μgcm−2 for iodate method for Fluclox and Diclox, respectively, which indicates the high sensitivity of both methods. Standard deviation (S.D. = 0.01–0.80 and 0.07–0.98) and relative standard deviation (R.S.D. = 0.13–0.44 and 0.11–0.82%) (n = 5) for DDQ and iodate methods, respectively, refer to the high accuracy and precision of the proposed methods. These results are also confirmed by between-day precision of percent recovery of 99.87–100.2

and 99.90–100% for Fluclox and Diclox by DDQ method and 99.88–100.1 and 99.30–100.2% for Fluclox and Diclox by iodate method, respectively. These data are comparable to those obtained by British and American pharmacopoeias assay for the determination of Fluclox and Diclox in raw materials and in pharmaceutical preparations.

Keywords

Spectrophotometric; Flucloxacillin and dicloxacillin; 2,3-Dichloro-5,6-dicyano-p-benzoquinone (DDQ); Potassium iodate; Pharmaceutical preparations.

International Publications Awards
Cairo University

الاسم : أ.د / فاتن احمد فؤاد نور الدين

القسم : الكيمياء كلية العلوم

Spectrophotometric Determination of Trazodone, Amineptine and Amitriptyline Hydrochlorides Through Ion-Pair Formation Using Methyl Orange and Bromocresol Green Reagents

Faten A.F. Nour El-Dien, Gehad G. Mohamed and Nehad A. Mohamed

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **SPECTROCHIM ACTA A ,A65 20-26 (2006)**

Abstract

A simple and rapid extraction spectrophotometric procedure has been developed for the determination of tricyclic anti-depressant drugs such as trazodone (TZH), amineptine (APH) and amitriptyline (ATPH) hydrochlorides in pure form and in different dosage forms. The method involves the formation of intense yellow ion-pairs between these drugs under investigation and methyl orange (MO) and bromocresol green (BCG) reagents followed by their extraction with 1,2-dichloroethane and quantitative microdetermination at 420 and 410 nm using MO or BCG, respectively. The optimum experimental conditions for the ion-pairs formation are established. The method permits the determination of TZH, APH and ATPH over a concentration range of 2–50, 2–50 and 1–25 μgml−1 for TZH, APH and ATPH, using MO and 1–25 μgml−1 for TZH, APH and ATPH, using BCG, respectively. The Sandell sensitivity (S) is found to be 0.106, 0.1071 and 0.0907 g cm−2 for TZH, APH and ATPH, respectively, using MO reagent and 0.0788, 0.0661 and 0.0494 g cm−2 for TZH, APH and ATPH, respectively, using BCG. The method is applicable for the assay of the investigated drugs in different dosage forms and the results are in good agreement with those obtained by the official method..

Keywords

Pharmaceutical preparation; Extraction spectrophotometry; TZH; APH and ATPH determination; Methyl orange; Bromocresol green.

الاسم : أ.د / فاتن احمد فؤاد نور الدين

القسم : الكيمياء كلية العلوم

Spectrophotometric Determination of Trazodone, Amineptine and Amitriptyline Hydrochlorides Through Ion-Pair Formation with Molybdenum and Thiocyanate

Gehad G. Mohamed ∗, F.A. Nour El-Dien, S.M. Khalil and Nehad A. Mohamed

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **SPECTROCHIM ACTA A A65 1221-1226 (2006)**

Abstract

Extraction spectrophotometric method has been developed for the determination of tricyclic drugs such as trazodone (TZH), amineptine (APH) and amitriptyline (ATPH) hydrochlorides in pure form and in the dosage forms coming from different Egyptian markets. The method based on the formation of ion-pairs between these drugs under investigation and inorganic complex of Mo (V)–thiocyanate followed by its extraction with methylene chloride. The optimum conditions for the ion-pairs formation are established. The method permits the determination of TZH, APH and ATPH over the concentration range of 2–28, 2–32 and 1–30 μgml−1, respectively. The Sandell sensitivity (S) is found to be 0.105, 0.138 and 0.118 g cm−2 for TZH, APH and ATPH, respectively. The SD is found to be 0.16–0.377, 0.12–0.259 and 0.091–0.286 and the R.S.D. are 0.14–0.55, 0.12–0.399 and 0.095–0.485 for TZH, APH and ATPH, respectively. The method is applicable for the assay of the investigated drugs in different dosage forms and the results are in good agreement with those obtained by the official method.

Keywords

Pharmaceutical preparation; Extraction spectrophotometry; Trazodone; Amineptine and amitriptyline hydrochlorides determination; Mo(V)–thiocyanate.

International Publications Awards
Cairo University

الاسم : أ.د / فتحي محمد عبد الرازق

كلية العلوم القسم : الكيمياء

Synthesis of some New Pyridine and Pyrido-fused Derivatives From □-cyanomethylbenzylidene Malononitrile

Fathy M. Abdelrazek, Nadia H. Metwally and Nehal A. Sobhy

ISSN : 0001-9704 **Impact Factor:** 0.22

Journal: **AFINIDAD 63 149-152 (2006)**

Abstract

a-Cyanomethylbenzylidene malononitrile (1) reacts with trichloroacetonitrile (2) to afford the pyridine 4 presu- mably via the intermediate 3. Compound 4 reacts with hydrazine hydrate and phenyl hydrazine to give the pyridylhydrazine derivatives 5a,b; which afforded the pyrimido[4,5-b]pyrido[2',3'-e]triazepines 7a,b upon reflux in formamide. Compounds 5a,b could be cyclized into the pyrazolo[3,4-b]pyridines 8a,b; which react with for- mamide to afford the pyrazolo[3,4-b]pyrido[2',3'-d]pyri- midine derivatives 9a,b respectively. Compound 4 was transformed into the pyridine dicarboxamide 10 when refluxed in hydrochloric / acetic acid mixture. This latter compound could be cyclized into the pyrido[2,3-d]pyri- midine 11 upon reaction with triethylorthoformate.

Keywords

A-cyanomethylbenzylidene malononitrile; Pyridines; Pyrido[2,3-d]pyrimidines; Pyrazolo[3,4-b]pyri- dine; Triazepines

الاسم : أ.د / فتحي محمد عبد الرازق

القسم : الكيمياء كلية العلوم

Synthesis of some New N-Substituted Pyrroles, Pyrrolo[1,2-a]quinazoline, and Diaza-as-indacene Derivatives

Fathy M. Abdelrazek and Nadia H. Metwally

ISSN : 0039-7911 **Impact Factor:** 0.86

Journal: **Synthetic Communications 36 83-89 (2006)**

Abstract

2-Phenyl-1,1,3-tricyano-3-bromopropene 1 reacts with the aromatic amines 2a – f and 6a – c to afford the N-substituted pyrroles 4a – d, the pyrrolo[1,2-a]quinazo- line derivatives 5a, b, and the diaza-as-indacene derivatives 7a – c and 8a – c, presum- ably via elimination of hydrogen bromide followed by cyclization of the formed acyclic intermediates. All structures are confirmed by analytical and spectral data.

Keywords

Aromatic amines; Diaza-as-indacenes; 2-phenyl-1;1,3-tricyano-3-bromo- propene; Pyrroles; Pyrrolo[1,2-a]quinazolines

International Publications Awards
Cairo University

الاسم : أ.د / فتحي محمد عبد الرازق

كلية العلوم القسم : الكيمياء

The Reaction of 2-Aminonicotinonitrile with some Active Methylene Reagents: Synthesis of some New 1,8-Naphthyridine and Pyrido-fused Derivatives

Fathy M. Abdelraze and Farid A. Michael

ISSN : 0001-9704 **Impact Factor:** 0.22

Journal: **AFINIDAD 63(523) 229-233 (2006)**

Abstract

Nicotinonitrile (1) reacts with malononitrile, cyanothioa- cetamide, ethyl cyanoacetate and its dimmer 11, thei □- ketoesters 12a,b, and N-arylidenecyanoacetohydrazides 16a-c to afford: 2-cyanomethylpyrido[2,3-d]pyrimidine (4), pyrazolo[1,5-a]pyrido[2,3-d]pyrimidine (6), pyrano[2,3- b]-1,8-naphthyridine (10), 3-acylnaphthyridines 14a,b the triazaphenanthrene derivatives 15a,b and 1,2,4-triazo- lo[4 3-a]-1,8-naphtyridine derivatives 19a-c, respectively. Structures and plausible mechanisms are discussed.

Keywords

Nicotinonilonitrile; Active methylene reagents; Cyanacetohydrazide; Naphthyridine derivatives.

الاسم : أ.د / فتحي محمد عبد الرازق

كلية العلوم القسم : الكيمياء

Synthesis and some Reactions of 2-Benzoyl-3- Phenylpent-2-ene-1,5-Dinitrile

Fathy M. Abdelrazek and Farid A. Michael

ISSN : 0001-9704 **Impact Factor:** 0.22

Journal: **AFINIDAD 63(524) 335-338 (2006)**

Abstract

An unambiguous synthesis of 2-benzoyl-3-phenylpent- 2-ene-1,5-dicarbonitrile 2 starting from phenacyl bromi- de is described. Compound 2 could be cyclized into the pyran derivative 6, which in role could be transformed into the pyridine derivatives 8 and 9 upon fusion with ammonium acetate. Compound 2 reacts also with hydra- zine hydrate, phenyl hydrazine and trichloroacetonitrile to afford the pyridine derivatives 11a, 11b and 13 res- pectively.

Keywords

1,5-Dibromo-2-benzoyl-3-phenylpent-2-ene;
2-benzoyl-3-phenylpent-2-ene-1; 5-dicarbonitrile; Pyridine derivatives.

International Publications Awards
Cairo University

الاسم : أ.د / فوزى على عتابى عجوة

القسم : الكيمياء كلية العلوم

Synthesis of Pyrido[2',3':3,4]pyrazolo[5,1-c] triazine, Pyrazolo[3,4-b]pyridin-3-ylphenylthiourea Derivatives and their Biological Evaluation

Fawzy A. Attaby*, A. H. Elghandour**, M. A. Ali** and Yasser M. Ibrahem*

ISSN : 0001-9704 **Impact Factor:** 0.22

Journal: **Afinidad 63 417-425 (2006)**

Abstract

Pyrazolo[3,4-b]pyridine-5-carbonitrile derivative 1 was diazotized to give the corresponding diazonium salt 2 which was used as a good synthon to synthesize pyri- do[2',3':3,4]pyrazolo[5,1-c]triazines 5, 8, 15a-c and 19 via its coupling with several active-hydrogen containing reagents e.g. 2,4-pentanedione, ethyl 3-oxobutanoate, diethyl malonate, malononitrile, 2-cyanoethanethioami- de and ethyl cyanoacetate. Also, it reacts with phenyl isothiocyanate to afford the corresponding pyrazolo[3,4- b]pyridin-3-ylphenylthiourea derivative 20 which in turn, used for further chemical transformations to pounds 25a,b, 29, 31 and 32. Considering the data of IR, 1H NMR, mass spectra and chemical analyses the structures of all newly synthesized heterocyclic com- pounds were elucidated. Cytotoxicity, anti HSV1 and anti HAV, MBB activities were evaluated for all newly synt- hesized heterocyclic compounds.

Keywords

Cyanoethanethioamide; Pyridine-5-carbo- nitrile; Phenyl isothiocyanate; Pyridopyrazolotriazines; Pyrazolopyridin-3-ylphenylthiourea.

International Publications Awards
Cairo University

الاسم : أ.د / فوزى على عتابى عجوة

القسم : الكيمياء كلية العلوم

Synthesis, Reactions and Characterization of 2-(2-methyl-5-nitro-1H benzimidazol-1-yl)-N'-(arylmethylene)acetohydrazide and 2-(2-methyl-5 nitro-1H-benzimidazol-1-yl)- N-(4-oxo-2-aryl-1,3-thiazolidin-3-yl) acetamide Derivatives

Mostafa M. Ramla*, Ahmed O.H. EL Nazhawy* and Fawzy A. Attaby**

ISSN : 0001-9704 **Impact Factor:** 0.22

Journal: **Afinidad 488-494 63 (2006)**

Abstract

Ethyl (2-methyl-5-nitro-1H-benzimidazol-1-yl)acetate (2) was prepared through the reaction of 2-methyl-5-nitro- 1H-benzimidazole (1) with ethyl bromoacetate. Compound 2 was allowed to react with hydrazine hydrate to produ-ce 2-(2-methyl-5-nitro-1H-benzimidazol-1-yl)acetohy- drazide (3) that reacted with different aromatic aldehy- des to give the corresponding 2-(2-methyl-5-nitro- 1H- benzimidazol-1-yl)-N'-(arylmethylene)acetohydrazides 5a-h. The preparation of 2-(2-methyl-5-nitro-1H-benzi-midazol-1-yl)-N-(4-oxo-2-aryl-1,3-thiazolidin-3-yl)aceta- mide derivatives 7a-h and 1-[(4-acetyl-5-phenyl-4,5-dihy- dro-1,3,4-oxadiazol-2-yl)methyl]-2-methyl-5-nitro-1H-benz rocyclic compounds are elucidated from IR, elemental analysis data

Keywords

1H-benzimidazole; Ethyl bromoacetate; Acetamide; Acetohydrazide; Ethyl acetate.

International Publications Awards
Cairo University

الاسم : أ.د / فوزى على عتابى عجوة

القسم : الكيمياء كلية العلوم

Synthesis, Reactions and Antivirial Activity of 1-(1h-Pyrazolo[3,4-B]Pyridin-5-Yl)Ethanone and Pyrido[2',3':3,4]Pyrazolo[5,1-C][1,2,4]Triazine Derivatives

Fawzy A. Attaby, * A. H. H. Elghandour;* Ali M. A;** and Yasser M. Ibrahem

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **PHOSPHORUS SULFUR 1087-1102 (2006)**

Abstract

1-(3-Amino-6-methyl-4-pyridin-3-yl-1H-pyrazolo[3,4-b]pyridin-5-yl)eth- anone (3) was obtained in very pure state and used as a good starting material for the present study. It diazotized to give the corresponding diazonium salt 9 and also reacted with phenyl isothiocyanate to give the corresponding thiourea derivative 4. Compound 4 was used for the preparation of thiazole derivatives 5-8 via the reaction with active halogen containing compounds. On the other hand, compound 9 coupled with several active –CH2- containing compounds to afford the corresponding triazine derivatives 10-17. Considering the data from IR, 1H NMR, the mass spectra and elemental analyses the chemical structures of the newly synthesized heterocyclic compounds were elucidated. Cytotoxicity, anti HSV1, and anti HAV-MBB activity were evaluated for the newly synthesized heterocyclic compounds.

Keywords

1H-pyrazolo(3,4-b]pyridin-5-yl)ethanone ; N-phenylthiourea
1,3-thiazolidin-4-one: Pyrido[2',3':3,4]; Pyrazolo[5,1-c][1,2,4]triazine;
2-cyanoethanethioamide.

International Publications Awards
Cairo University

الاسم : أ.د / فوزى على عتابى عجوة

القسم : الكيمياء كلية العلوم

Synthesis, Reactions and Antivirial Activity Of 5'- Acetyl-6'-Methyl-2'-Thioxo-1',2'-Dihydro-3,4'- Bipyridine-3'-Carbonitrile BIPYRIDINE-3'-CARBONITRILE

Fawzy A. Attaby, Ali M. A.,** A. H. H. Elghandour* and Yasser M. Ibrahem*

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **PHOSPHORUS SULFUR 1-14 (2006)**

Abstract

Bipyridine-3'-carbonitrile derivatives 5 reacted with several halogen containing reagents e.g. 1-chloroacetone, 3-chloropentan-2,4-dione, ethyl chloroacetate, ethyl 2-chloro-3-oxobutanoate, 2-chloroacetamide, chloro- acetonitrile and iodomethane to afford the corresponding thieno[2,3-b]- pyridine derivatives. Considering the data of IR, 1H NMR, mass spectra and elemental analysis elucidated the chemical structures of the newly synthesized heterocyclic compounds. Cytotoxicity, anti HSV1 and anti HAV, MBB activity were evaluated for the newly synthesized heterocyclic compounds.

Keywords

bipyridine-3; Carbonitrile; Thieno[2,3-b]pyridine, 2-methyl; Thiopyridine-3; Carbonitrile, 2-cyanoethanethioamide and 2-Thioxopyridine

International Publications Awards
Cairo University

الاسم : أ.د / محمد اسعد محمد حسن

القسم : الرياضيات كلية العلوم

On P-Nilpotence and Supersolvability of Finite Groups

M. Asaad

ISSN : 0092-7872 **Impact Factor:** 0.303

Journal: **COMMUN AL GEBRA 189-195 (2006)**

Abstract

A subgroup K of a finite group G is called an H-subgroup of G if the following condition is satisfied:

$N_G(K) \cap K^g \leq K$ for all $g \in G$.

The set of all H-subgroup of a finite group G will be denoted by H(G). In this paper, we investigate the structure of a finite group G under the assumption that certain subgroups of prime power orders belong to H(G).

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / محمد اسعد محمد حسن

القسم : الرياضيات كلية العلوم

Some Results on P-Nilpotence and Supersolvability of Finite Groups

M. Asaad

ISSN : 0092-7872 **Impact Factor:** 0.303

Journal: **COMMUN AL GEBRA 4217-4224 (2006)**

Abstract

Let G be a finite group. A subgroup K of a group G is called an H-subgroup of G if NG(K) □ Kg □ K for all g □ G. The set of all H-subgroups of G will be denoted by H(G). Let P be a nontrivial p-group. A chain of subgroup 1=P0 < P1<…<Pn=P is called a maximal chain of P provided that |Pi:Pi-1|=p, i=1,2,…,n. A nontrivial p-subgroup P of G is called weakly supersolvably embedded in G if P has a maximal chain 1=P0 < P1<…<Pn=P such that Pi □ H(G) for i=1,2,…,n. Using the concept of weakly supersolvably embedded, we obtain new characterizations of p-nilpotent and supersolvable of finite groups.

Keywords

P-nilpotent groups; Saturated formations; Supersolvable groups.

International Publications Awards
Cairo University

الاسم : أ.د / محمد عبدالعزيز عبد العظيم النفيرى

القسم : الكيمياء كلية العلوم

Thieno[2,3-b]pyridine-2-carbohydrazidein Polyheterocyclic Synthesis: The Synthesis of Pyrido[3_,2_:4,5]thieno[3,2-d]pyrimidine, Pyrido[3_,2_:4,5]thieno[3,2-d][1,2,3]triazine, and Pyrazolyl, Oxadiazolylthieno[2,3-b]pyridine Derivatives

Mohamed A. A. Elneairy*, Mohamed A. M. Gad-Elkareem** and Azza M. Abdel-Fattah*

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **Phosphorus, Sulfur,and Silicon and the Related Elements 181 1451-1466 (2006)**

Abstract

Pyrdine-2(1H)-thione 1 reacted with ethyl chloroacetate 2 to give 2-Sethoxycarbonylmethylpyridine derivative 3, which could be cyclized into thieno[2,3-b] pyridine-2-carbohydrazide derivative 5 by boiling with hydrazine hydrate. The latter compound reacted with cinnamonitrile derivatives 6a,b, triethylorthoformate, formic acid, dimethylformamide-dimethylacetal, and diethyl carbonate to give the corresponding shiff base 7a, b and pyrido[3_,2_;4,5]thieno[3,2-d]pyrimidine derivatives 10–13 in respective manner. On the other hand, compound 5 also reacted with carbondisulphide and phenyl isothiocyanate to afford the corresponding 2-(1,3,4- oxadiazolo-2yl)thieno[2,3-b]pyridine derivatives 18 and 22. Finally, compound 5 reacted with some β-dicarbonyl compounds, such as ethyl acetoacetate, acetylacetone and ethyl βarylazoacetoacetate, to yield the corresponding 2-(pyrazol-1-ylcarbonyl) thieno[2,3-b]pyridine derivatives 24, 25, and 27 respectively.

Keywords

2-(1,3,4-Oxadiazolo-2-yl)thieno[2,3-b]pyridine; 2- (pyrazol-1-ylcarbonyl)-thieno[2,3b]pyridine; Pyridine-2(1H)-thiones; Thieno[2,3-b]pyridine-2-carbohydrazide; Thieno[2,3-b]pyridines; Pyrido[3_,2_:4,5] thieno[3,2-d] pyrimidines.

International Publications Awards
Cairo University

الاسم : أ.د / محمد عبدالعزيز عبد العظيم النفيرى

القسم : الكيمياء كلية العلوم

Pyridine-2(1H)-thione in Heterocyclic Synthesis: Synthesis of some New Nicotinic Acid Ester, Thieno[2,3-b]pyridine, Pyrido[3_,2_:4,5]thieno [3,2-d]pyrimidine, and Thiazolylpyrazolo-[3,4-b]pyridine Derivatives

Mohamed A. M. Gad-Elkareem*, Azza M. Abdel-Fattah** and Mohamed A. A. Elneairy**

ISSN : 1042-6507 **Impact Factor:** 0.564

Journal: **Phosphorus, Sulfur,and Silicon and the Related Elements 181 891-911 (2006)**

Abstract

Nicotinic acid esters 3a–c were prepared by the reaction of pyridine-2(1H)-thione derivative 1 with α-halo-reagents 2a–c. Compounds 3a–c underwent cyclization to the corresponding thieno[2,3-b]pyridines 4a–c via boiling in ethanol/piperidine solution. Compounds 4a–c condensed with dimethylformamide-dimethylacetal (DMF-DMA) to afford 3-{[(N,N-dimethylamino)methylene]amino}thieno[2,3-b]- pyridine derivatives 6ac. Moreover, compounds 4a–c and 6a–c reacted with different reagents and afforded the pyrido[3_, 2_ : 4, 5]thieno[3,2-d]pyrimidine derivatives 10a–d, 11a–c, 12a,b, 14a,b, 17, and 19. In addition, pyrazolo[3,4-b]pyridine derivative 20 (formed via the reaction of 1 with hydrazine hydrate) reacted with ethylisothiocyanate yielded the thiourea derivative 21. Compound 21 reacted with α-halocarbonyl compounds to give the 3-[(3H-thiazol-2 ylidene)amino]-1Hpyrazolo[3,4-b]pyridine derivatives 23a–c, 25, and 27a,b.

Keywords

Ethyl nicotinates; Pyridinethiones; Pyridothienopyrimidines; Thiazolylpyrazolo[3, 4-b]pyridines; Thieno[2, 3-b]pyridnes.

الاسم : أ.د / هاله جميل الشويكى

كلية العلوم القسم : الكيمياء

Effect of □-Irradiation and ZnO-doping of CuO/TiO2 System on Its Catalytic Activity in Ethanol and Isopropanol Conversion

H.G. El-Shobaky* , A.S. Ahmed*, and N.R.E. Radwan**

ISSN : 0927-7757 **Impact Factor:** 1.498999

Journal: **COLLOID SURFACEA 274 138-144 (2005)**

Abstract

The effects of γ-irradiation (0.4-1.6 MGy) and ZnO–doping (1-6 mol%) of CuO/TiO2 system on its surface and catalytic properties were investigated using XRD, nitrogen adsorption at -196oC and ethanol and isopropanol conversion. The catalytic reactions were carried out at 250-400oC using micro pulse technique. The results revealed that all investigated solids heated at 400 and 600oC consisted of TiO2 (anatase) as major phase besides TiO2 (rutile) as minor phase together with CuO phase. The anatase and CuO phases existed as nano-crystallized solids having crystallite size varying between 5.5-21.3 nm and between 8.2-23.5 nm for anatase and CuO phases, respectively. ZnO-doping and γ-irradiation brought about a progressive significance decrease in the crystallite size of TiO2 and CuO phases which increased by increasing the calcination temperature of the system investigated from 400 to 600oC. ZnO-doping and γ-irradiation increased the specific surface areas of the treated solids to an extent proportional to the amount of dopant added and the dose of γ-ray absorbed. All solids investigated were highly selective in ethanol and isopropanol conversion reactions which proceed via dehydration yielding only ethane and propene, respectively. The catalytic activity of all solids was found to decrease by increasing the calcination temperature from 400 to 600oC. ZnO-doping conducted at 400oC exerted no significant change in the activity of doped solids. γ-Irradiation of the solids calcined at 400oC led to a limited increase in their catalytic activities. On the other hand, ZnO-doping and γ-irradiation (0.4 MGy) of solids calcined at 600oC resulted in an increase in their catalytic activities. The increase was, however, more pronounced in case of γ-irradiation at a dose of 0.4 MGy.

Keywords

Dehydration Of Alcohols; Cuo/Tio2; Zno-Doping; Γ-Irradiation

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

القسم : الكيمياء كلية العلوم

Surface and Catalytic Proparties of Pure CeO2 and MoO3-doped NiO/TiO2 System

N.R.E. Radwan* , H. G. El-Shobaky** and S.A. El-Molla***

ISSN : 0926-860X **Impact Factor:** 2.728

Journal: **APPL CATAL A-GEN 297 31-39 (2006)**

Abstract

Isopropanol conversion was carried out over TiO2 and pure and variously MoO3 and CeO2 – doped NiO/TiO2 solids calcined at 300 and 500oC. The concentration of NiO was varied between 9 and 23 mol% and those of dopants were changed within 1 – 6 mol%. The effects of calcination temperature, dopant concentration and NiO content on the activity and selectivity of various solids were investigated. The techniques employed were XRD, nitrogen adsorption at -196oC and isopropanol conversion at 200-300oC and 200-350oC for the solids heated at 300 and 500oC, respectively using flow method. The results revealed that TiO2 (anatase) existed as major phase besides TiO2 (rutile), nickel titanate (major phase), NiO and NiMoO3 (minor phase) in heavily MoO3 – NiO/TiO2 system. The rutile / anatase ratio was varied between 18 and 36% depending on calcination temperature and dopant concentration. Doping NiO/TiO2 decreased the crystallite size of anatase phase which varied between 7 and 23 nm depending on the amount of dopant added and calcination temperature of doped solids. The catalytic activity of TiO2 much decreased by increasing its calcination temperature from 300 to 500oC. Opposite trend manifested in case of NiO/TiO2 solids. All solids investigated were selective in isopropanol conversion which proceeds, mainly, via dehydration yielding propene. Small amounts of acetone were produced via dehydrogenation of alcohol investigated specially at reaction temperature below 250oC. MoO3 and CeO2 doping of the system investigated resulted in a considerable increase in its catalytic activity. The increase was, however, more pronounced in case of MoO3-doping. The selectivity of various solids was only influenced by the reaction temperature reaching > 90% at temperatures ≥ 250oC.

Keywords

NiO/TiO2; Isopropanol Conversion; Mo03; Ce02-Doping

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

كلية العلوم القسم : الكيمياء

Cordierite as Catalyst Support for Nanocrystalline CuO/Fe2O3 System

H. G. El-Shobaky* and Y.M.Fahmy**

ISSN : 0025-5408 **Impact Factor:** 1.38

Journal: **MATER RES BULL 1701-1713 (2006)**

Abstract

CuO, Fe2O3 and (CuO – Fe2O3) samples supported on cordierite (commercial grade) were prepared by wet impregnation method using finely powdered support material, copper and /or iron nitrates. The extent of loading was varied between 5 and 20 wt% CuO, Fe2O3 or (CuO – Fe2O3). The physicochemical, surface and catalytic properties of the various solids calcined at 350 - 700 oC were investigated using XRD, EDX, nitrogen adsorption at 77K and CO oxidation by O2 at 220 – 280 oC.

The results obtained revealed that the employed cordierite preheated at 350–700oC was well crystallized magnesium aluminum silicate (Mg2Al4Si5O18). Loading of 20 wt% CuO or Fe2O3 on the cordierite surface calcined at 350 oC led to a partial dissolution of the added oxides in the support lattice forming solid solutions. The other portions remained as separate nanocrystalline CuO or Fe2O3 phases. The dissolved portions of the transition metal oxide increased upon increasing the calcination temperature from 350 to 500 oC. Loading of 20 wt% (CuO – Fe2O3) on the cordierite surface followed by calcination at 350 oC resulted in a solid – solid interaction between some of CuO and Fe2O3 yielding iron cuprate Fe2CuO4, which decomposed at $\geq$ 500 oC yielding copper and iron oxides. The portion of Fe2O3 dissolved in the cordierite lattice at 500 oC is twice that of CuO.

The SBET of cordierite increased several times by treating with small amounts of Fe2O3 or CuO. The increase was more pronounced by treating with Fe2O3. The catalytic activity of the cordierite increased progressively by increasing the amount of oxide(s) added. The mixed oxides system supported on cordierite and calcined at 350 – 700 oC showed catalytic activities much bigger than those measured for the individual supported systems. The synergistic effect manifested in case of solids calcined at 350 oC was

attributed to the formation of surface iron cuprate. The significant increase in surface concentration of copper species on top surface layers of the solids treated with mixtures of copper and ferric oxides could be responsible for the synergistic effect for the mixed oxide catalysts calcined at 500 or 700 oC.

Keywords

A. Oxides; A. Nanostructures; A. Composites; C. X-ray diffraction; D. Catalytic properties.

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

القسم : الكيمياء كلية العلوم

Nickel Cuprate Supported on Cordierite as an Active Catalyst for CO Oxidation by O2

H. G. El-Shobaky* and Y.M.Fahmy**

ISSN : 0926-3373 **Impact Factor:** 3.809

Journal: **APPL CATAL B-ENVIRON 63 168-177 (2006)**

Abstract

The physicochemical, surface and catalytic properties of 10 and 20 wt% CuO, NiO or (CuO – NiO) supported on cordierite (commercial grade) calcined at 350 - 700 oC were investigated using XRD, EDX, nitrogen adsorption at -196 oC and CO oxidation by O2 at 220 – 280 oC. The results obtained revealed that the employed cordierite preheated at 350–700 oC was well crystallized magnesium aluminum silicate (Mg2Al4Si5O18). Loading of 20 wt% CuO or NiO on the cordierite surface followed by calcination at 350 oC led to dissolution of a limited amount of both CuO and NiO in the cordierite lattice. The portions of CuO and NiO dissolved increased upon increasing the calcination temperature. Treating a cordierite sample with 20 wt% (CuO – NiO) followed by heating at 350 oC led to solid-solid interaction between some of the oxides present yielding nickel cuprate. The formation of NiCuO2 was stimulated by increasing the calcination temperature above 350 oC. However, raising the temperature up to ≥ 550 oC led to distortion of cuprate phase. The chemical affinity towards the formation of NiCuO2 acted as a driving force for migration of some of copper and nickel oxides from the bulk of the solid towards their surface by heating at 500 – 700oC. The SBET of cordierite increased several times by treating with small amounts of NiO, CuO or their binary mixtures. The increase was however less pronounced upon treating the cordierite support with CuO – NiO. The catalytic activity of the cordierite increased progressively by increasing the amount of oxide(s) added. The mixed oxides system supported on cordierite and calcined at 450 – 700 oC exhibited the highest catalytic activity due to formation of the nickel cuprate phase. However, the catalytic activity of the mixed oxides system reached a maximum limit upon heating at 500 oC then decreased upon heating at temperature above

this limit due to the deformation of the nickel cuprate phase.

Keywords

Cordierite; Nickel cuprate; Copper oxide; Nickel oxide; CO oxidation; Migration; Solid solution

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

القسم : الكيمياء كلية العلوم

Thermal and X–Ray Diffraction Studies of the Solid- Solid Interactions in Cuo-Moo3 / Mgo System

Hala. G. El-Shobaky

ISSN : 1388-6150 **Impact Factor:** 1.425

Journal: **J THERM ANAL CALORIM 85 321-327 (2006)**

Abstract

The solid-solid interactions in pure and MoO3 - doped CuO/MgO system were investigated using TGA, DTA and XRD. The composition of pure mixed solids were 0.1CuO/MgO, 0.2CuO/MgO and 0.3CuO/MgO and the concentration of MoO3 were 2.5 and 5 mol%. These solids were prepared by wet impregnation of finely powdered basic magnesium carbonate with solutions containing calculated amounts of copper nitrate and ammonium molybdate followed by heating at 400-1000 oC. The results revealed that ammonium molybdate doping of the system investigated enhanced the thermal decomposition of copper nitrate and magnesium hydroxide which decomposed at temperatures lower than those observed in case of the undoped mixed solids by 70 and 100 oC, respectively. A portion of CuO present dissolved in the lattice of MgO forming CuO-MgO solid solution with subsequent limited increase in its lattice parameter. The other portion interacted readily with a portion of MoO3 at temperatures starting from 400 oC yielding CuMoO4 which remained stable up to 1000 oC. The other portion of MoO3 interacted with MgO producing MgMoO4 at temperatures starting from 400 oC and remained also stable at 1000 oC. The diffraction peaks of Cu2MgO3 phase were detected in the diffractograms of pure and MoO3-doped 0.3 CuO/MgO precalcined at 1000 oC. The formation of this phase was accompanied by an endothermic peak at 930 oC.

Keywords

MgMoO4; CuMoO4; solid solution; Cu2MgO3; CuO; MgO; MoO3.

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

القسم : الكيمياء كلية العلوم

Effect of La2O3 and Mn2O3-doping of Co3O4/Al2O3 System on Its Surface and Catalytic Properties

Hala G. El-Shobaky⁎, Mona A. Shouman** and Amina A. Attia**

ISSN : 0927-7757 **Impact Factor:** 1.499

Journal: **COLLOID SURFACE A 274 62-70 (2006)**

Abstract

Pure sample of cobalt oxide supported on -alumina and having the formula 0.1 Co3 O4 /Al2 O3 was prepared by wet impregnation method using finely powdered Al(OH)3 solid and cobalt nitrate dissolved in the least amount of distilled water sufficient to make a paste. Different samples doped with lanthanum or manganese oxides were prepared by impregnating a known mass of aluminum hydroxide with calculated amounts of lanthanum or manganese nitrates prior to impregnation with cobalt nitrate. Pure and variously doped solids were heated at 600 and 800 ◦ C. The dopant concentration was varied between 0.3 and 4 mol% Mn2 O3 and 1–4 mol% La2 O3 . The techniques employed were XRD, nitrogen adsorption at −196 ◦ C and oxidation of CO with O2 at 125–200 ◦ C. The results revealed that Mn2 O3 -doping conducted at 600 and 800 ◦ C and La2 O3 -doping conducted at 600 ◦ C increased the lattice constant of Co3 O4 phase due to dissolution of some of dopant oxides added in Co3 O4 lattice with subsequent transformation of some of Co3+ ions in non-stoichiometric cobalt oxide into Co2+ ions. The doping process either with Mn2 O3 or La2 O3 of the system investigated decreased the crystallite size of Co3 O4 phase. The decrease was, however, more pronounced in case of Mn2 O3 -doped solids calcined at 800 ◦ C. The specific surface areas of most of solids investigated increased by their doping with manganese or lanthanum oxides. The catalytic activity, in CO oxidation with O2 of the system investigated, was found to increase progressively by increasing the amount of La2 O3 added and attained a maximum limit in presence of 0.5 mol% Mn2 O3 then decreased upon increasing the dopant concentration above this limit. The maximum increase in the catalytic activity expressed as reaction rate constant measured at 175 ◦ C attained 42.5% and 240% for the solids doped with 4 mol% La2 O3

and calcined at 600 and 800 ◦ C, respectively. These values were 52% and 490% in case of the solids doped with 0.5 mol% Mn2 O3 and heated at 600 and 800 ◦ C, respectively. The doping process did not change the mechanism of the catalytic reaction but rather increased the concentration of active sites without altering their energetic nature.

Keywords

La2 O3 and Mn2 O3 -doping of Co3 O4; Oxidation of CO with O2.

International Publications Awards
Cairo University

الاسم : أ.د / هاله جميل الشويكى

القسم : الكيمياء كلية العلوم

Effect of Li2O – Doping of CdO / Fe2O3 System on the Formation of Nanocrystalline CdFe2O4

A. M. Ghozza* and H. G. El-Shobaky**

ISSN : 0921-5107 **Impact Factor:** 1.281

Journal: **MAT SCI ENG B-SOLID 127 233-238 (2006)**

Abstract

The solid-solid interactions between pure and Li2O-doped cadmium and ferric oxides have been investigated using DTA and XRD techniques. A mixture of equimolar proportions of powdered cadmium nitrate and ferric oxide were impregnated with lithium nitrate dissolved in the minimum amount of water making a paste. The paste was calcined at 500-1000 oC. The amounts of dopants were 0.75, 1.5 and 3 mol% Li2O. The results obtained showed that the addition of lithium nitrate to the reacting mixed solids enhanced the thermal decomposition of cadmium nitrate. Pure Fe2O3 interacted readily with CdO at temperatures starting from 600 oC yielding crystalline CdFe2O4 phase. This phase was produced at 500 oC upon doping the mixed oxides with 1.5 or 3 mol% Li2O. The degree of reaction propagation increased as a function of temperature up to 800 oC. The crystallite size of the produced CdFe2O4 was reduced due to Li2O - doping to the nanocrystalline range upon doping with 3 mol% Li2O. Raising the calcination temperature to 1000 oC effected the decomposition of a portion of the formed CdFe2O4 and exerted an opposite effect on the crystallite size. Doping of the investigated system followed by calcination at 500-800 oC enhanced the CdFe2O4 formation to an extent proportional to the amount of Li2O added. The decomposition of CdFe2O4 was accompanied by an endothermic peak at 965 oC and Li2O - doping enhanced the decomposition process. The activation energy of formation of CdFe2O4 (Δ E) was determined for pure and doped solids and the computed values were 67, 58, 42 and 25 kJ mol-1 for pure solids and those doped with 0.75, 1.5 and 3 mol% Li2O, respectively. The decrease in the Δ E values was attributed to the role of Li2O in increasing the mobility of the reacting Cd2+ and Fe3+ cations of CdO and Fe2O3 involved in CdFe2O4 formation.

Keywords

XRD, Doping; Cdfe2o4; Mobility; Activation Energy.

الاسم : أ.د / هشام محمد محمد منصور

كلية العلوم القسم : الفيزياء

Incompressibility and Single-Particle Potential for AsymmetricNuclear Matter with Skyrme Potential *

H.M.M.Mansour **and Z.Metawei

ISSN : 1063-7788 **Impact Factor:** 0.914

Journal: **PHYS ATOM NUCL+ 1228-1232 69/7 (2006)**

Abstract

The incompressibility and the single-particle potential of asymmetric nuclear matter have been investigated in the framework of the Skyrme interaction. These parameters have been studied as functions of the nuclear density, the neutron excess parameter, and the temperature. The ratio of the isothermal incompressibility of hot nuclear matter to the incompressibility of cold nuclear matter for different values of neutron excess as a function of temperature is calculated. It is observed that this ratio decreases with temperature increasing apart from pure neutron matter when the growth of temperature leads to the growth of incompressibility. The symmetry incompressibility has been calculated as a function of density for different values of temperature.

Keywords

الاسم : د / هويدا محمد السيد حسنين

كلية العلوم القسم : الكيمياء

Studies with Functionally Substituted Enamines: The Reactivity of Enaminals and Enamino Esters toward Naphthoquinone, Hydrazonoyl Halides, Aminoazoles and Hippuric Acid

SuBabineslkis AL-Saleh*, Saad Makhseed*, Huwaida M. E. Hassaneen**, Mohamed Hilmy Elnagdi**

ISSN : 0039-7881 **Impact Factor:** 2.401

Journal: **SYNTHESIS-STUTTGART 1/59 62 (2006)**

Abstract

Whereas enamines 1a,b react with naphthoquinone (2) to yield the naphthofuranals 5a,b, enamine ester 1c react with 2 to yield benzoindole derivatives 7. Enamine 1b reacts with hydra- zonoyl halides 8 to yield 3,4-disubstituted pyrazoles 12. On the oth- er hand, the enaminal 1a failed to react with 8, while enamine ester 1c afforded hydrazone 16 on treatment with 8. The enamino ester 1b afforded triethyl 1,3,5-benzenetricarboxylates on refluxing in acetic acid

Keywords

Enaminals; Enamino esters; Hydrazonoyl halides; Ami noazoles; Enaminonitriles.

الاسم : أ.د / يسرى مصطفى عيسى

القسم : الكيمياء كلية العلوم

Flow injection potentiometric determination of clobutinol hydrochloride

Y.M. Issa * and S.I.M. Zayed **

ISSN : 0039-9140 **Impact Factor:** 2.391

Journal: **TALANTA 69 481-487 (2006)**

Abstract

New clobutinol (Clob) ion-selective polyvinyl chloride (PVC) membrane electrodes, based on the ion-associates of Clob with phosphotungstic acid or phosphomolybdic acid were prepared using dibutyl phthalate as plasticizing solvent. The electrodes were characterized in terms of membrane composition, temperature and pH. The sensors showed a near-Nernstian response over the concentration ranges (6.31 × 10−6)–(1.00 × 10−2) and (5.01 × 10−5 (1.00 × 10−2) M in the case of clobutinol-phosphotungstate ((Clob)3 -PT) applying batch and flow injection (FI) analysis, respectively, and (1.58 × 10−5)–(1.00 × 10−2) and (5.01 × 10−5)–(1.00 × 10−2) M in case of clobutinol-phosphomolybdate ((Clob)3 -PM) for batch and FI analysis systems, respectively. The electrodes were successfully applied for the potentiometric determination of ClobCl in pharmaceutical preparation and urine in steady state and flow injection conditions. The electrodes exhibit good selectivity for Clob with respect to a large number of inorganic cations, sugars and amino acids

Keywords

Clobutinol hydrochloride; Ion-selective electrodes; Flow injection analysis; Potentiometry.

International Publications Awards
Cairo University

الاسم : أ.د / يسرى مصطفى عيسى

القسم : الكيمياء كلية العلوم

The surfactant sensitized analytical reaction of cerium(IV) with some triphenylformazan derivatives

I.S. Ahmed*, A.S. Amin* and Y.M. Issa **

ISSN : 1386-1425 **Impact Factor:** 1.29

Journal: **Spectrochimica Acta A A64 246-250 (2006)**

Abstract

Cationic surfactant, cetylpyridinium bromide (CPB), sensitizes the colour reaction of cerium (IV) with 1,3-o-hydroxyphenyl- 5-phenylformazan(I), hydroxyphenyl-3-o-hydroxyphenyl-5-phenylformazan (II) and 1-m-carboxyphenyl-3-o hydroxyphenyl-5-phenylformazan(III). The formation of a soluble ternary complex of stoichiometric ratio 1:1:1 (Ce(IV)–R–CPB) is responsible for the observed enhancement in the molar absorptivity and Sandell sensitivity of the formed complex, when a surfactant is present. The ternary complex exhibits absorption maxima at 596, 571 and 607 nm ($\varepsilon = 6.05 \times 104$, 6.28×104 and 8.06×104 Lmol−1 cm1) using triphenylformazan derivatives I, II and III, respectively. Beer's law is obeyed between 0.15 and 2.5 gml−1, whereas, optimum concentration range applying Ringbom method is in the range 0.30–2.25 gml−,1 Conditional formation constants in the presence and absence of CPB for Ce(IV) complexes have been calculated. The proposed method has been successfully applied to the analysis of magnesium-base cerium alloys and synthetic mixtures corresponding to various cerium alloys.

Keywords

Ternary complex; Cerium (IV) determination; Cetylpyridinium bromide; Spectrophotometry; Triphenylformazans.

International Publications Awards
Cairo University

الاسم : أ.د / يسرى مصطفى عيسى

القسم : الكيمياء كلية العلوم

CONSTRUCTION AND PERFORMANCE CHARACTERIZATION OF ION- SELECTIVE ELECTRODES FOR POTENTIOMETRIC DETERMINATION OF PSEUDOEPHEDRINE HYDROCHLORIDE APPLYING BATCH AND FLOW INJECTION ANALYSIS TECHNIQUES

Sayed. I. M. ZAYED*, Yousry. M. ISSA** and Ahmed HUSSEIN***

ISSN : 0003-4592 **Impact Factor:** 0.395

Journal: **Annali di Chimica 421-433 (2006)**

Abstract

New pseudoephedrine selective electrodes have been constructed of the conventional polymer membrane type by incorporation of pseudoephedrine- phosphotungstate (PE-PT) or pseudoephedrine–silicotungstate (PE-SiT) ion- associates in a poly vinyl chloride (PVC) membrane plasticized with dibutyl phthalate (DBP). The electrodeswere fully characterized in terms of the membrane composition, temperature, and pH. The electrodes exhibited mean slopes of calibration graphs of 57.09 and 56.10 mV concentration decade-1 of PECl at 25 °C for (PE-PT) and (PE-SiT) electrodes, respectively. The electrodes showed fast, stable, and near-Nernstian response over the concentration ranges 6.31x 10-6–1.00 x10-2 and 5.00 x 10-5 –1.00x10-2 M in the case of PE-PT applying batch and flow injection (FI) analysis, respectively, and 1.00 x 10-5-1.00 x 10-2 and 5.00 x 10-5 – 1.00x10-2 M in the case of PE-SiT for batch and FI analysis system, respectively. Detection limit was 5.01x 10-6 M for PE-PT electrode and 6.31x10-6 M for PE-SiT electrode. The electrodes were successfully applied for the potentiometric determination of pseudoephedrine hydrochloride (PECl) in pharmaceutical preparations with mean recovery 101.13+0.85% and 100.77+0.79% in case of PE-PT applying batch and flow injection systems, respectively, and 100.75+0.85% and 100.79+0.77% in case of PE-SiT for batch and flow injection systems, respectively. The electrodes exhibited good selectivity for PECl with respect to a large number of

inorganic cations, sugars and amino acids.

Keywords

Faculty of Engineering

International Publications Awards
Cairo University

الاسم : أ.د / أحمد إمام أحمد حسن

كلية الهندسة القسم : الرى والهيدروليكا

Developing a Long-Term Monitoring Network Under Uncertain Flowpaths

Ahmed E. Hassan

ISSN : 0017-467X **Impact Factor:** 1.419

Journal: GROUND WATER 710-722 (2006)

Abstract

A long-term monitoring well network is developed using complementary and simple approaches in conjunc- tion with a stochastic ground water flow and transport model. The development is illustrated for a case study of a U.S. nuclear testing site (Shoal) that is undergoing environmental restoration. The network design builds on three different, yet complementary, tools for locating the monitoring wells with a main objective of detection monitoring. The first tool is applied to select potential siting horizons where monitoring wells could be located. The second tool is used to place monitoring wells in locations with high success probability. The success here is defined as the detection of migrating stochastic plumes before a certain mass percentage reaches a compliance boundary. The third tool is used to analyze detection efficiency of multiple combinations of three wells. Seventy- six different three-well networks are selected from 20 candidate locations and are evaluated for detection effi- ciency. From the 76 networks analyzed, 28 attain detection efficiency close to or above 70%. The results of the different analyses provide multiple alternatives for the locations of the three wells, which will become part of the long-term monitoring network at Shoal. A number of combinations are equally good, and the final choice will depend on practical considerations and future agreements between model sponsor and regulators.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / أحمد إمام أحمد حسن

كلية الهندسة القسم : الرى والهيدروليكا

Monte Carlo Evaluation of Microbial-Mediated Contaminant Reactions in Heterogeneous Aquifers

Mohamed M.A. Mohamed*,**, Kirk Hatfield***, Ahmed E. Hassan**,****

ISSN : 0309-1708 **Impact Factor:** 1.684

Journal: Advances in Water Resources 1121-1139 (2006)

Abstract

Monte Carlo simulations are conducted to evaluate microbial-mediated contaminant reactions in an aquifer comprised of spa- tially variable microbial biomass concentrations, aquifer hydraulic conductivities, and initial electron donor/acceptor concentra- tions. A finite element simulation model is used that incorporates advection, dispersion, and Monod kinetic expressions to describe biological processes. Comparisons between Monte Carlo simulations of heterogeneous systems and simulations using homogeneous formulation of the same two-dimensional transport problem are presented. For the assumed set of parameters, phys- ical aquifer heterogeneity is found to have a minor effect on the mass of contaminant biodegraded/transformed when compared to a homogeneous system; however, it noticeably changes the dispersion, skewness, and peakness of contaminant concentration distri- butions. Similarly, for low microbial growth rate, given favorable microbial growth characteristics, biological heterogeneity has minor effect on the mass of contaminant biodegraded/transformed when compared to a homogeneous system. On the other hand, when higher effective growth rates are assumed, biological heterogeneity and spatial heterogeneities in essential electron donor/ acceptors reduce the efficiency of biotic contaminant reactions; consequently, model simulations derived from heterogeneous bio- mass distributions predict remediation time scales that are longer than those simulated for homogeneous systems. When correlations between physical aquifer and biological heterogeneities are considered, the assumed correlation affects predicted mean and variance of contaminant concentration and biomass distributions. For example, an assumed negative correlation between hydraulic conduc- tivity and the initial biomass distribution produces a plume where less efficient biotic contaminant reactions occur at the leading edge of the plume; this is consistent with less degradation/transformation occurring over regions of higher groundwater velocities. However, the presence and absence of these correlations do not appear to affect the efficiency of microbial-mediated contaminant attenuation.

Keywords

Stochastic; Subsurface; Transport; Biodegradation; Monte Carlo.

International Publications Awards
Cairo University

الاسم : أ.د / أحمد إمام أحمد حسن

كلية الهندسة القسم : الرى والهيدروليكا

Experimental and Numerical Investigations of Effects of Silica Colloids on Transport of Strontium in Saturated Sand Columns

HESHAM M. BEKHIT*, AHMED E. HASSAN** , REBEKAH HARRIS-BURR***AND CHARALAMBOS PAPELIS***

ISSN : 0013-936X **Impact Factor:** 4.054

Journal: Environmental Science and Technology. 40 5402-5408 (2006)

Abstract

Transport experiments with strontium were conducted using saturated sand columns in the presence and absence of silica colloids, and numerical modeling was performed with modeling results compared to experimental data. The experiments were aimed at testing the hypothesis that under certain chemical conditions colloids act as movement-retarding agents and yield a larger effective retardation factor for the migrating contaminant. Four individual experiments were conducted to identify conditions where the mobility of silica colloids is increased or decreased, and a similar set was conducted for strontium transport in the absence of colloids. Mobility of colloids was found to increase with decreasing ionic strength and increasing pH, with the ionic strength having the more significant impact. The reverse effect was obtained for strontium. Based on these results, two additional experiments were conducted where both colloids and strontium were injected at the column inlet. Results showed that under certain conditions of ionic strength and pH (I) 3.010-2 M and pH) 4-5.4) colloids retarded the movement of strontium. The retardation effect was obtained in two experiments under slightly modified conditions, which confirms the role of colloids as retarding agents. A finite difference numerical model was used to (a) simulate mobile breakthrough curves and compare to experimental data and (b) estimate the model parameters describing cotransport of strontium and colloids. The model accurately predicted arrival time and the overall shape of the breakthrough curves

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / أحمد محمد سليمان

كلية الهندسة القسم : الالكترونيات والاتصالات الكهربية

New CMOS Fully-Differential Transconductor and Application to A Fully-Differential Gm-C Filter

Mohamed O. Shaker, Soliman A. Mahmoud, and Ahmed M. Soliman

ISSN : 1225-6463 **Impact Factor:** 1.254

Journal: ETRI JOURNAL 28 175-181 (2006)

Abstract

A new CMOS voltage-controlled fully-differential transconductor is presented. The basic structure of the proposed transconductor is based on a four-MOS transistor cell operating in the triode or saturation region. It achieves a high linearity range of ± 1 V at a 1.5 V supply voltage. The proposed transconductor is used to realize a new fully-differential Gm-C low-pass filter with a minimum number of transconductors and grounded capacitors.PSpice simulation results forthe transconductor circuit and its filter application indicating the linearity range and verifying the analytical results using 0.35 μm technology are also given.

Keywords

CMOS transconductor, Gm-C filters

الاسم : أ.د / أحمد محمد سليمان

القسم : الالكترونيات والاتصالات الكهربية كلية الهندسة

New Square-Root Domain Oscillators

TAMER S.A. RAGHEB AND AHMED M. SOLIMAN

ISSN : 0925-1030 **Impact Factor:** 0.277

Journal: ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING 47 165-168 (2006)

Abstract

This paper proposes a systematic design procedure to transform the conventional Gm -C oscillators to square-root domain voltage oscillators. These transformed oscillators have the square-root domain advantages such as good bandwidth- linearity compromise in addition to low power dissipation. An oscillator will be considered as an example with its analytical derivations and simulation results

Keywords

square root domain, oscillators, Gm -C

International Publications Awards
Cairo University

الاسم : أ.د / أحمد محمد سليمان

كلية الهندسة القسم : الالكترونيات والاتصالات الكهربية

A TRANSFORMATION METHOD FROM VOLTAGE-MODE OP-AMP-RC CIRCUITS TO CURRENT-MODE GM-C CIRCUITS

Rania F. Ahmed*, Inas A. Awad and Ahmed M. Soliman**

ISSN : 0278-081X **Impact Factor:** 0.646

Journal: CIRCUITS SYSTEMS AND SIGNAL PROCESSING 25 609-626 (2006)

Abstract

A new transformation method is proposed and used to transform op-amp-RC circuits to Gm -C ones with only grounded capacitors. The proposed method enables the generation of high-performance Gm -C filters that benefit from the advantages of good and well-known op-amp-RC structures and at the same time feature electronic tunability, high frequency capability and monolithic integration ability. An attractive feature of the proposed method is that it results in Gm -C structures with only grounded capacitors in spite of the presence of floating capacitors in the original op-amp-RC circuits.

Keywords

Gm -C filters . Transformation method . Generation of Gm -C circuits

الاسم : أ.د / أحمد محمد سليمان

القسم : الالكترونيات والاتصالات الكهربية كلية الهندسة

New 1.5-V CMOS Second Generation Current Conveyor Based on Wide Range Transconductor

Ahmed H. Madian*, Soliman A. Mahmoud* and Ahmed M. Soliman**

ISSN : 0925-1030 **Impact Factor:** 0.277

Journal: ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING 49 267-279 (2006)

Abstract

This paper presents a novel CMOS low-voltage and low-power positive second-generation current conveyor
(CCII +). The proposed CCII + uses two n-channel differ- ential pairs instead of the complementary differential pairs; i.e. (n-channel and p-channel), to realize the input stage. This solution allows almost a rail-to-rail input and output opera- tion; also it reduces the number of current mirrors needed in the input stage. The CCII + is operating at supply voltages of
± 0.75 V with a total standby current of 133 μA. The applica- tion of the proposed CCII + to realize a MOS-C second or- der maximally flat low-pass filter is given. PSpice simulation results for the proposed CCII + and its application are given

Keywords

CMOS . Current conveyor . Low-power . Low-voltage . Rail-to-rail

International Publications Awards
Cairo University

الاسم : د / تامر فاروق محمد السيد

كلية الهندسة القسم : التصميم الميكانيكى والانتاج

A Genetic Algorithm Approach To The Integrated Inventory-Distribution Problem

TAMER F. ABDELMAGUID* and MAGED M. DESSOUKY**

ISSN : 0020-7543 **Impact Factor:** 0.481

Journal: INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH 44 4445–4464 (2006)

Abstract

We introduce a new genetic algorithm (GA) approach for the integrated inventory distribution problem (IIDP). We present the developed genetic representation and use a randomized version of a previously developed construction heuristic to generate the initial random population. We design suitable crossover and mutation operators for the GA improvement phase. The comparison of results shows the significance of the designed GA over the construction heuristic and demonstrates the capability of reaching solutions within 20% of the optimum on randomly generated problem data sets.

Keywords

Inventory routing; Inventory management; Vehicle routing; GA; Lot sizing.

International Publications Awards
Cairo University

الاسم : أ.د / سعيد رزق جريس

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

On the oscillatory properties of certain fourth order nonlinear difference equations

Ravi P. Agarwal ∗, Said R. Grace**and Jelena V. Manojlovic ***

ISSN : 0022-247X **Impact Factor:** 0.579

Journal: J. Math. Anal. Appl. 322 (2006)

Abstract

Some new criteria for the oscillation of fourth order nonlinear difference equations of the form

1 1 1 α2 α3 +

a3 (n)

a2 (n)

a1 (n)

x(n) α1

δq (n)f x g(n)= 0,

where δ =±1 are investigated.

Keywords

Oscillation; Nonoscillation; Difference; Nonlinear; Comparison.

الاسم : أ.د / سعيد رزق جريس

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Oscillation Criteria For Certain Fourth Order Nonlinear Functional Differential Equations

Ravi P. Agarwal*, Said R. Grace **, Jelena V. Manojlovic ***

ISSN : 0895-7177 **Impact Factor:** 0.422

Journal: MATHEMATICAL AND COMPUTER MODELLING 44 163–187 (2006)

Abstract

Keywords

Oscillation; Nonoscillation; Functional; Nonlinear; Comparison.

International Publications Awards
Cairo University

الاسم : أ.د / سعيد رزق جريس

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Some NonsCillation Criteria For Inclusions

Ravi P. Agarwal*, Said R. Grace**, Jelena V. Manojlovic***

ISSN : 1446-7887 **Impact Factor:** 0.317

Journal: JOURNAL OF THE AUSTRALIAN MATHEMATICAL SOCIETY 80 1-12 (2006)

Abstract

Keywords

Oscillation; Nonoscillation; Difference; Nonlinear; Comparison.

International Publications Awards
Cairo University

الاسم : أ.د / سلوى كمال عبد الحفيظ

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Efficient Implementation of Vector Preisach-Type Models Using OrthogonallyCoupled Hysteresis Operators

A. A. Adly* and S. K. Abd-El-Hafiz**

ISSN : 0018-9464 **Impact Factor:** 1.014

Journal: **IEEE TRANSACTIONS ON MAGNETICS, MAY 2006 42 5 (2006)**

Abstract

Vector hysteresis models are regarded as helpful tools that can be utilized in the simulation of multidimensional field-media interac- tions. Recently, substantial efforts have been focused on the refinement of vector Preisach-type models of hysteresis. The purpose of this paper is to present a computationally efficient vector Preisach-type hysteresis model constructed from only two scalar models having orthogonally inter-related elementary operators. Such a model is implemented via a linear neural network (LNN) fed from the outputs of discrete Hopfield neural network (DHNN) blocks having step activation functions. With this DHNN-LNN configuration, it is possible to carry out the identification process using well-established widely available algorithms. Details of the model, its identification, and experimental testing are presented.

Keywords

Neural networks, Preisach model; Vector hysteresis.

International Publications Awards
Cairo University

الاسم : أ.د / سلوى كمال عبد الحفيظ

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Using the Particle Swarm Evolutionary Approach in Shape Optimization and Field Analysis of Devices Involving Nonlinear Magnetic Media

A. Adly* and S. K. Abd-El-Hafiz**

ISSN : 0018-9464 **Impact Factor:** 1.014

Journal: IEEE TRANSACTIONS ON MAGNETICS, OCTOBER 2006 42 10 (2006)

Abstract

Extensive efforts have been long directed towards the development of shape optimization methodologies for electromagnetic devices. In case of devices involving nonlinear magnetic media, this optimization process becomes more complicated. This paper demonstrates how shape optimization and field analysis of such devices may be carried out efficiently and conveniently using the particle swarm evolutionary approach and without the involvement of other computational tools. Details of the proposed approach, its application to different electromagnetic devices, and comparisons with finite-element computations are presented in the paper.

Keywords

Electromagnetic devices; Field computation; Nonlinear magnetic media; Particle swarm optimization.

International Publications Awards
Cairo University

الاسم : أ.د / عادل عبد القادر محسن

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

An effcient method for solving the nonuniqueness problem in acoustic scattering

A. Mohsen* and M.Hesham*

ISSN : 1069-8299 **Impact Factor:** 0.389

Journal: COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING 22 1067-1076 (2006)

Abstract

The problem of acoustic wave scattering by closed objects via second kind integral equations, is considered. Based on, combined Helmholtz integral equation formulation (CHIEF) method, an e cient method for choosing and utilizing interior eld relations is suggested for solving the non- uniqueness problem at the characteristic frequencies. The implementation of the algorithm fully utilizes previous computation and thus signi cantly reduces the CPU time compared to the usual least-squares treatment. The method is tested for acoustic wave scattering by both acoustically hard and soft spheres. Accurate results compared to the known exact solutions are obtained.

Keywords

Acoustic scattering; Integral equations; Helmholtz equation; Nonuniqueness.

International Publications Awards
Cairo University

الاسم : أ.د / عبد الرحمن عبد الفتاح رجب

كلية الهندسة القسم : التصميم الميكانيكى والانتاج

Evaluation of Estimates of Roll Separating Force in Bar Rolling

A. R. Ragab* and S.N. Samy**

ISSN : 1087-1357 **Impact Factor:** 0.532

Journal: JOURNAL OF MANUFACTURING SCIENCE AND ENGINEERING 128 34-42 (2006)

Abstract

A systematic approach is presented to estimate the roll separating force in bar rolling. This force is the product of the contact area between the rolled material and the roll pass, the mean unit pressure on the roll and the average flow stress within the roll gap. The contact area is determined by a computerized scheme based on a descriptive geometry approach. Also an approximate model to determine the average strain, hence the strain rate and the rolling temperature within the roll gap is proposed to estimate the flow stress from available material characterizations. The mean unit pressure on the rolls uses models existing in the literature pertinent to three-dimensional analysis of bar rolling. These models are slightly modified to encompass the unifying Δ-parameter expressing the geometry of the deformation zones namely the ratio between the mean cross sectional area and the contact area. The present approach is applied for a variety of common types of passes employed in bar rolling. Validation of the approach is realized through comparisons of predictions with a set of about 100 experimental and industrial data points for bar rolling in various passes. A fair agreement between the predictions and the measured data points is found. Reasons for the discrepancies are discussed. Furthermore a simplified analytical model to estimate the roll separating force which includes the least of adjusting empirical factors is suggested.

Keywords

Hot rolling; Bar rolling; Shape rolling; Roll separating force

International Publications Awards
Cairo University

الاسم : أ.د / عبد الرحمن عبد الفتاح رجب

كلية الهندسة القسم : التصميم الميكانيكى والانتاج

An Approach to Predict Free Surface Fracture in Bulk Forming

A.R. Ragab

ISSN : 1073-5623 **Impact Factor:** 1.232

Journal: METALLURGICAL AND MATERIALS TRANSACTIONS A 37A 1281-1287 (2006)

Abstract

This work presents a unified approach to predict surface strains at failure in bulk forming processes. The approach does not deal with a specific process but rather with prescribed strain and stress paths. The material to be processed is assumed to possess an initial void volume fraction that grows and coalesces with straining, ending by fracture. The predictions are based on a formulation for voided solids according to the Gurson-Tvergaard yield function adapted to include orthotropic anisotropy. The incident of fracture is characterized by shear band formation within the ligaments of the matrix material among spheroidal voids as described by McClintock. The results are represented by a straight line plot of tensile limit strain versus the compressive strain for different loading paths. These limit curves are shown to be dependent on the initial void fraction, hardening, and anisotropy of the matrix material. Alloys with lower initial void fractions as well as those of higher hardening show better workability. The model is applied to predict bulk formability curves for steels AISI 1040 and 1045, Aluminum Al 7075-T6, and copper, based on the proper selection of micromechanical param- eters for these alloys. The validity of the model is ensured through fairly favorable comparison with experimentally determined limit curves. The current failure conditions are suitable to predict the exper- imental dual slope fracture line that may exist for some alloys such as cold-drawn steel AISI 1045 and aluminum 2024-T6 by considering two mechanisms of failure: internal necking in the ligament material between voids, followed by transition to shear band formation.

Keywords

Bulk forming; Workability; Limit strains; Void coalescence; Shear band; Ductile fracture.

الاسم : أ.د / محمد عبد العزيز الجمل

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Automatic Circuit Tuning Via Unsupervised Learning Paradigms

EL-GAMAL M. A., SOROUR M. A., ABDEL-MALEK H. L.

ISSN : 0218-1266 **Impact Factor:** 0.248

Journal: Circuits Systems and Computers 15 217-242 (2006)

Abstract

This work describes a novel technique for automating the post-fabrication circuit tuning process. A training set that characterizes the behavior of the circuit under test is first constructed. The data in this set consists of input measurement vectors with no output attributes, and is clustered via unsupervised learning algorithm in order to explore its underlying structure and correlations. The generated clusters are labeled and utilized in circuit tuning by calculating the value(s) of the tuning parameter(s). Three prominent and fundamentally different unsupervised learning algorithms, namely, the Self-Organizing Map, the Gaussian Mixture Model, and the Fuzzy C-Means algorithm are employed and their performance is compared. Experimental results demonstrate that the proposed technique provides a robust and efficient circuit tuning approach.

Keywords

– Circuit Tuning, Clustering Algorithms, Self-Organizing Map, Gaussian Mixture Model, Fuzzy C-Means Algorithm.

International Publications Awards
Cairo University

الاسم : أ.د / محمد هشام فاروق السيد

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Neural network model for solving integral equation of acoustic scattering using wavelet basis

M. Hesham* and M. A. EI-Gamal*

ISSN : 1069-8299 **Impact Factor:** 0.389

Journal: COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING / / (2006)

Abstract

In this work, neural networks (NNs) are trained in order to obtain a fast and efficient solution of the integral equation of acoustic scattering. Wavelets sparsification methods are utilized to reduce the NN size and complexity. The non-uniqueness problem which arises in solving this integral equation at characteristic frequencies can, also, be solved using such network without any additional computational load. Experimental results show excellent agreement between the NN-based solution and the analytical solution of a spherical scatterer.

Keywords

Neural networks; Daubechies wavelet family; Method of moments (MoM); Non-uniqueness; Characteristic wave number

International Publications Awards
Cairo University

الاسم : أ.د / محمود محمد إبراهيم طاش

كلية الهندسة القسم : المناجم والبترول والفلزات

Effect of Metallurgical Parameters on the Machinability of Heat-Treated 356 And 319 Aluminum Alloys.

M. Tash*,** F.H. Samuel*, F. Mucciardi ***, H.W. Doty ****, S. Valtierra *****

ISSN : 0921-5093 **Impact Factor:** 1.347

Journal: MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING 434 207–217 (2006)

Abstract

The present study was undertaken to investigate the effect of metallurgical parameters on the drilling performance of heat-treated 356 and 319 alloys. The most important metallurgical factors considered in the present study which determine the condition of the work material that can influence the outcome of the machinability are:

- chemistry and additions (Cu, Mg and -Fe-intermetallic volume fractions),
- cooling rate and quenching rate,
- hardness (HB).

Additions of Mg to 319 alloys and different heat treatments for 356 and 319 alloys were employed to obtain similar levels of hardness in both alloys. Conditions of Sr-modified (200–250 ppm) 356 and 319 alloys containing mainly -Fe-intermetallics and related to different levels of hardness (90, 100 and 110 HB) were selected for the drilling study. The effects of Mg and -Fe-intermetallic volume fractions on the machinability of heat-treated 319 alloys were studied at two levels of Mg (0.1 and 0.28%) and at two levels of -Fe-intermetallic volume fractions (2 and 5%), respectively. The range of the hardness and Fe-intermetallic volume fractions used in this study conform to the most common levels observed in the commercial applications of these alloys.

It was found that a higher Mg content results in a higher cutting force at the same level of hardness. This can be explained by the fact that a high volume fraction of Mg-

intermetallics or precipitates can be formed within the alloy matrix in the high Mg-content 319 alloys compared to the low Mg-content ones. The low Cu content in 356 alloy resulted in a higher cutting force compared to 319 alloys exhibiting the same level of hardness. This may be explained by the improvement in the homogeneity of the alloy matrix hardness in 319 alloys on
the basis of the combined effect of Cu-and Mg-intermetallics, where hardening occurs by cooperative precipitation of Al2 Cu and Mg2 Si phase particles, compared to only Mg2 Si precipitation in the case of 356 alloys.
The morphology of iron intermetallics was found to affect the cutting force results when the aging was carried out for 2 h at 180 ◦ C and not at 220 ◦ C.

It seems that cutting force and moment are only slightly influenced by cooling and quenching rates. Heat treatments that increase the hardness will reduce the built-up-edge (BUE) on the cutting tool. Hardness affects the machinability of 319 alloys in that machinability improves as the hardness increases. It is observed that both cutting force and moment increase with the hardness while the build-up on the cutting edge decreases. The low Mg-content 319 alloys (0.1% Mg) yielded the longest tool life, more than twice that of 356 alloys (0.3% Mg) and one-and-a-half times that of the high Mg-content 319 alloys (0.28% Mg). It is customary to rate the machinability of the 319 alloy as higher than that of 356 alloy, and the machinability of the low Mg-content 319 alloy as higher than that of the high Mg-content one.

Deceptive chip formation (welding) was observed on 356 and 319 alloys (M1 and M3). Full, half turn and helical chips are generated for both
356 and 319 alloys at the start of a cutting operation when the drill is new (shearing process). As the drill begins to wear, the chips gradually become deformed, as both shearing and deformation occur.

Keywords

356 and 319 aluminum alloys; Metallurgical parameters; Mg and Sr additions; Alloying elements; Iron intermetallics; Heat-treatment; Hardness; Machinability.

الاسم : أ.م / نادية حسين رأفت

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

A Simple Analytical Treatment of Edge-Illuminated VMJ Silicon Solar Cells

N. H. Rafat

ISSN : 0038-092X **Impact Factor:** 0.868

Journal: Solar Energy 80 1588-1599 (2006)

Abstract

The series connected silicon vertical multi-junctions (VMJs) solar cells have been suggested as means for ensuring high voltage high efficiency solar cells. This study includes a review of some previously published work concerning the edge-illuminated VMJs solar cells. We introduce a simple one-dimensional analysis to study the high voltage series connected silicon VMJs solar cells. The cell, under study, consists of 40 VMJs. Each junction (unit cell) has dimensions of 250 □m x 0.78 cm x 500 □m. We calculate the short circuit current, the open circuit voltage and the efficiency for an ideal cell, having perfect carrier collection at short circuit conditions, and for real cells. An optimization with respect to the base doping, the emitter doping, the surface recombination velocity and the number of junctions is done for the real cell. A conversion efficiency of 20% has been calculated under AM1.5 light spectrum for real cells having a base doping of 1016 cm-3 and an emitter doping of 1017 cm-3.

Keywords

Vertical multi-junction; Solar cell; Edge illumination.

الاسم : د / نادية حسين رأفت

كلية الهندسة القسم : الرياضيات والفيزيقا الهندسية

Photon Recycling in The Graded Bandgap Solar Cell

N. H. Rafat* , A. M. Abdel Haleem** and S. E. D. Habib***

ISSN : 1062-7995 **Impact Factor:** 3.409

Journal: PROGRESS IN PHOTOVOLTAICS 14 313-320 (2006)

Abstract

We derived a general integral expression for the carrier radiative recombination rate in solar cells. The photon Boltzmann equation is solved taking into account the photon recycling effect inside the cell and assuming arbitrary spatial variation of the absorption coefficient. This expression can thus be used for graded bandgap solar cells.

Keywords

Graded bandgap solar cells; Photon recycling.

International Publications Awards
Cairo University

الاسم : أ.د / هبة الله مصطفى مراد قطب

كلية الهندسة القسم : الالكترونيات والاتصالات الكهربية

Two Proposed Blind Equalizers Using Different Constellation Matched Error Functions For Qam Signals

HEBAT-ALLAH M. MOURAD

ISSN : 0929-6212 **Impact Factor:** 0.311

Journal: WIRELESS PERSONAL COMMUNICATIONS (2006)

Abstract

Although Constant Modulus Algorithm (CMA) is effective to equalize non-minimum phase channels blindly, it suffers from residual intersymbol interference (ISI) and large Mean Square Error (MSE) when applied to higher order constellations (QAM). Methods based on cost function matched to the signal constellation namely alphabet matched algorithm (AMA) were previously reported and proves its superiority on CMA concerning the MSE. Thus dual mode algorithms between CMA and AMA were introduced. A hybrid technique combining CMA and AMA using a cosine square function as a constellation matched error (CME) was lately reported. In this paper two different CME functions are introduced. The MSE of the proposed algorithms are calculated using Matlab simulation under multipath slow fading channels for different signal to noise ratios (SNR) and different levels of QAM constellations. A comparison is established among them. Depicted results show the effectiveness of the two proposed CME functions.

Keywords

Blind equalizers; CMA; CME functions.

Faculty of Pharmacy

International Publications Awards
Cairo University

الاسم : أ.د / أحمد محمد صلاح الدين فايد

كلية الصيدلة القسم : الكيمياء التحليلية

Validated HPLC and HPTLC Tability - Indicating Methods for Determination of Alfuzosin Hydrochloride in Balk Pouaderand Pharma Ceutical Formulations

Ahmed Salah Fayed Mostafa*, Abdel-Aaty Shehata Nagiba*, Yehia Hassan and Soheir Ahmed El-Weshahy*

ISSN : 1615-9306 **Impact Factor:** 1.829

Journal: J SEP SCI 29 2716-2724 (2006)

Abstract

Two sensitive, selective, and precise stability-indicating, high-performance liquid chromatography and high-performance thin-layer chromatography methods have been developed for the determination of alfuzosin hydrochloride in the presence of its degradation products. Alfuzosin.HCl was subjected to stress alkaline, acidic, oxi- dative, thermal, and photo-degradation. The drug could be well separated from the degradation products upon applying the two methods. Separation by HPLC was achieved using an Xterra RP18 column and acetonitrile/0.02 M KH2PO4 (pH = 3) in a ratio of 20:80 as mobile phase. The flow rate was 1 mL/min. The linearity range was 0.25 to 11 lg/mL with mean percentage recovery of 100.26 l 1.54. The HPTLC method used ALUGRAM Nano-SIL silica gel 60 F254 plates; the optimized mobile phase was methanol/ammonia (100:1.2). Quantitatively the spots were scanned den- sitometrically at 245 nm. A second order polynomial equation was used for the regression. The range was 0.5 – 7 lg/spot. The mean percentage recovery was 100.13 l 1.67. Two main degradation products were obtained in most stress conditi- ons, separated, and identified by FT-IR and NMR spectral analysis, from which the degradation pathway was proposed. The two methods were validated according to the International Conference on Harmonization. In addition, the HPLC method was used to study the kinetics of alkaline and acid degradation of the drug.

Keywords

Alfuzosin HCl; HPLC and HPTLC; Kinetics studies; Stability-indicating methods; Stress studies.

International Publications Awards
Cairo University

الاسم : د / رامى كرم عزيز

كلية الصيدلة القسم : الميكروبيولوجيا والمناعة

Streptococcal Mitogenic Exotoxin, Smez, is the Most Susceptible M1T1 Streptococcal Superantigen to Degradation by the Streptococcal Cysteine protease , SpeB

Mohammed M. Nooh*, Ramy K. Aziz**, Malak Kotb, Alexey Eroshkin , Woei-Jer Chuang**, Thomas Proft, and Rita Kansal

ISSN : 0021-9258 **Impact Factor:** 5.854

Journal: JOURNAL OF BIOLOGICAL CHEMISTRY 281-46 35281-35288 (2006)

Abstract

Superantigens (SAgs) play an important role in the pathogen- esis of severe invasive infections caused by Group A Streptococ- cus (GAS). We had shown earlier that the expression of strepto- coccal cysteine protease SpeB results in partial loss of the immune-stimulating activity of the native secreted GAS SAgs, namely the streptococcal pyrogenic exotoxins produced by the globally disseminated M1T1 GAS strain, associated with inva- sive infections worldwide. In this study, we examined the sus- ceptibility of each of the M1T1 recombinant SAgs to degrada- tion by rSpeB. Whereas SmeZ was degraded completely within
30 min of incubation with rSpeB, SpeG, and SpeA were more resistant and SpeJ was completely unaffected by the proteolytic effects of this protease. Proteomic analyses demonstrated that the order of susceptibility of the M1T1 SAgs to SpeB proteolysis is unaltered when they are present in a mixture that reflects their native physiological status. As expected, the degradation of SmeZ abolished its immune stimulatory activity. In silico sequence disor- der and structural analyses revealed that SmeZ, unlike the three other structurally related SAgs, possesses a putative SpeB cleavage site within an area of the protein likely to be exposed to the surface. The study provides evidence for the effect of subtle structural dif- ferences between highly similar SAgs on their biological activity.

Keywords

Superantigens; SpeA; SemZ; Bioinformatics; Disorder

International Publications Awards
Cairo University

الاسم : أ.م / رامى كرم عزيز

كلية الصيدلة القسم : الميكروبيولوجيا والمناعة

The National Microbial Pathogen Database Resource (NMPDR): A Genomics Platform Based on Subsystem Annotation Treptococcus

Leslie McNeil*, Claudia Reich*, Ramy Aziz***, Terry Disz****, Robert Edwards*****, Svetlana Gerdes*****, Kaitlyn Hwang****, Folker Meyer****, Gary Olsen**, Robert Olson****, Andrei Osterman*****, Tobias Paczian***, Bruce Parrello****, Gordon Pusch****, Dmitry Rodionov*******, Olga Vassieva*****, Veronika Vonstein*****, Olga Zagnitko*****, Ross Oberbeek***** and Rick Stevens****.

ISSN : 0021-9193 **Impact Factor:** 4.167

Journal: JOURNAL OF BACTERIOLOGY (2006)

Abstract

The National Microbial Pathogen Data Resource (www.nmpdr.org) is a NIAID-funded Bioinformatics Resource Center that supports research in selected Category B pathogens. NMPDR contains the complete genomes of nearly 50 strains of pathogenic bacteria that are the focus of our curators, as well as more than 400 other genomes that provide a broad context for comparative analysis across the three phylogenetic Domains. NMPDR integrates complete, public genomes with expertly curated biological subsystems to provide the most consistent genome annotations. Subsystems are sets of functional roles related by a biologically meaningful organizing principle, which are built over large collections of genomes; they provide researchers with consistent functional assignments in a biologically structured context. Investigators can browse subsystems and reactions to develop accurate reconstructions of the metabolic networks of any sequenced organism. NMPDR provides a comprehensive bioinformatics platform, with tools and viewers for genome analysis. Results of precomputed gene clustering analyses can be retrieved in tabular or graphic format with one-click tools. NMPDR tools include Signature Genes, which finds the set of genes in common or that differentiates two groups of organisms. Essentiality data collated from genome-wide studies have been curated. Drug target identification and high-throughput, in silico, compound screening are in development.

Keywords

Bioinformatics; Gene Functions; Genome Analysis; Campylobacter; Listeria; Staphylococcus; Streptococcus; Vibrio

الاسم : أ.د / ريم خضر محمد عرفة

كلية الصيدلة القسم : الكيمياء الصيدلية

Synthesis, DNA Affinity and Antiprotozoal Activity of Linear Dications: Terphenyl Diamidines and Analogues.

Mohamed A. Ismail*, Reem K. Arafa*, Reto Brun**, Tanja Wenzler**, Yi Miao*, W. David Wilson* , Claudia Generaux***, Arlene Bridges***, James E. Hall*** and David W. Boykin*

ISSN : 0022-2623 **Impact Factor:** 4.926

Journal: Journal of Medicinal Chemistry 5324-5332 (2006)

Abstract

A series of linear-terphenyl diamidines and their analogues 10a-g and 18a,b was obtained from the respective dinitriles 9a-g and 15a,b either by direct treatment with lithium trimethylsilylamide or through the bis-O-acetoxyamidoxime followed by hydrogenation in glacial acetic acid. The dinitriles 9a-g were prepared via a Suzuki coupling reaction either employing bis-1,4-phenyleneboronic acid with 4-bromobenzonitrile or 6-chloronicotinonitrile; or employing 4-cyanophenylboronic acid with 1,4-dibromobenzene and its derivatives. Compounds 15a,b were obtained from the respective dialdehydes 14a,b via the in situ oxime formation followed by acetic anhydride induced-dehydration. The potential prodrugs, methoxy-amidines 12a-f and 17 were prepared via methylation of the respective diamidoximes 11a-f and 16a with dimethylsulfate in DMF solution and using Li(OH) as a base. Signficant DNA affinities for the linear rigid-rod molecules which can readily achieve near planar arrays such as 10a are observed. The linear compounds show impressive IC50 values against Trypanosoma brucei rhodensiense (T. b. r.), 10a, 10b, 10d, 18a, 18b exhibit IC50 values of 5nM or less and against Plasmodium falciparum (P.f.) 10a, 10b, 10e, 18a, 18b exhibit IC50 values near 5nM or less. The parent dications show promising in vivo results in the STIB900 mouse model for T. b. r. on intraperitoneal dosing. For example, 10a, 10d, 10f, 10g and 18b show better results than furamidine in this model. Unfortunately, the amidoxime and methamidoxime prodrugs are only moderately effective on oral administration. Mouse liver microsome bioconversion of the methamidoxime prodrugs is significantly reduced from that of pafuramidine and suggests that the in vivo efficacy of these prodrugs is, in part, due to

poor bioconversion.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / سحر محمود ابو سريع

كلية الصيدلة القسم : الكيمياء الصيدلية

Synthesis of 3-Substituted-2-Oxoindole Analogues and their Evaluation as Kinase Inhibitors, Anticancer and Antiangiogenic Agents

Ashraf H. Abadi*, Sahar M. Abou-Seri*, Doaa E. Abdel-Rahman*, Christian Klein **, Olivier Lozach***, Laurent Meijer***

ISSN : 0223-5234 **Impact Factor:** 2.022

Journal: EUR J MED CHEM 41 296-305 (2006)

Abstract

Several analogues of the 3-substituted-2-oxoindole chemotype were synthesized by condensing isatin or the appropriate haloisatin with some amino acids or histamine under neutral conditions. All the imino derivatives produced were tested for kinase inhibitory properties against three serine/threonine kinases, namely CDK1/cyclin B, CDK5/p25 and GSK3α/β. Most of the histidine derivatives showed inhibitory properties to the three kinases in the low micromolar range. The histamine derivatives were less potent against CDK1/cyclin B and CDK5/p25 and totally inactive against GSK3α/β. So, the management of the carboxyl function may be a tool to impart selectivity in such family of kinases. Docking of 2-{[-5- bromo-2-oxoindolin-3-ylidene]amino}-3-(1H-imidazol2-yl)propanoic acid 14 to CDK5/p25 indicates that this compound can interact with the enzyme through four hydrogen bonds; for GSK/3β, the ligand poses itself in another orientation, also four hydrogen bonds can be formed between the ligand and the receptor, otherwise hydrophobic interactions seem to predominate. Also, all the final compounds were tested for their in vitro antitumor properties against MCF7 (breast), NCI-H460 (lung) and SF268 (CNS) cancer cell lines. None of the synthesized compounds was cytotoxic at 10–4 molar concentration. Moreover, compounds 13 and 14 were tested for potential antiangiogenic properties by testing their ability to inhibit the proliferation of human umbilical vein endothelial cells (HUVECs), cord formation and migration in response to chemoat- tractant. Only compound 14 showed moderate inhibitory properties to HUVECs proliferation and cord formation while its non-brominated deri- vative 13 did not. Thus, the antiangiogenesis properties are not apparently caused by inhibition of any of the tested kinases.

Keywords

Indolinone; Kinase inhibitors.

International Publications Awards
Cairo University

الاسم : أ.م / سماح سيد عباس حسين

كلية الصيدلة القسم : الكيمياء التحليلية

Spectrophotometric Determination of Some Antihistaminic Drugs Using 7.7,8,8-Tetracyanoquinodimethane (TCNQ)

Amr M. Badawey , Samah S. Abbas, Hayam M. Loutfy

ISSN : 1060-3271 **Impact Factor:** 1.046

Journal: JOURNAL OF AOAC INTERNATIONAL 89 46-52 (2006)

Abstract

A simple and sensitive spectrophotometric method Is suggested for analysis of 3 antlhlstamlnlc drugs, acrlvastlne (I), mequltazlne (11), and dlmethlndene maleate (Ill). The method is based on reaction of the drugs with 7,7,8,8-tetracyanoqulnodlmethane (TCNQ) In acetonitrile to form highly stable colored products that are measured at 750, 766, and
844 nm for I and 11, and 480 and 618 nm for III.
Beer's law Is obeyed In the ranges of 5-60 uglmL for I, 5-50 ~g/mL for 11, and 10-70 ug/mL for III. The optimum assay conditions and their pplicability to the determination of the cited drugs in pharmaceutical formulations are described. The method Is statistically analyzed as compared with the European Pharmacopoeia (2001) method for the analysis of dlmethindene maleate and reference methods for acrlvastlne and mequltazine drugs revealing good accuracy and precision.

Keywords

International Publications Awards
Cairo University

الاسم : د / سماح سيد عباس حسين

كلية الصيدلة القسم : الكيمياء التحليلية

Spectrophotometric Stability-Indicating Methods for The Determination of Leflunomide in The Presence of its Degradates

*SAMAH S. ABBAS, **LORIES I. BEBAWY, ***LAII." A. F AlTAH and ****Heba H. Refaat

ISSN : 1060-3271 **Impact Factor:** 1.046

Journal: JOURNAL OF AOAC INTERNATIONAL 89 1524-1530 (2006)

Abstract

Five simple and sensitive methods were developed for the determination of leflunomide (I) in presence of its degradates 4¬trifluoromethyl aniline (11) and 3-methyl-4-carboxy isoxazole (Ill). Method (A) was based on differential derivative spectrophotometry by measuring the ~ID value at 279.5nm. Beer's law was obeyed in concentration range 2.00-20.00/lg.ml-1with mean percentage accuracy 100.07±1.32. Method (B) depend on first derivative spectrophotometry and measuring the amplitude at 253.4nm. Beer's law was obeyed in concentration range 2.00-16.00/lg.ml-l with mean percentage accuracy 98.42±1.61. Method (C) was based on the reaction of de gradate (11) with 2,6- dichloro-quinone-4-chloroimide (Gibb's reagent). The colored product was .measured at 469nm. Method (D) depend on the reaction of degradate (II) with para-dimetyl aminocinnamaldehyde (p-DAC). The absorbance of the colored product was measured at 533.4nm. Method (E) utilized 3-methyl-2-benzothiazolinone hydrazone (MBTH) in the presence of cerric ammonium sulphate with de gradate (11). The green colored product was measured at 605.5nm.

The linearity range was 40.00-280.00, 2.40-24.00, 30-250/lg.mrl with mean percentage accuracy I 00. 75±1.2 1 , 100.13±1.45 and 99.74±1.39 for method C, D, and E, respectively.

All variables were stUdied to optimize the reaction conditions. The proposed methods have been successfully applied to the analysis of leflunomide in pharmaceutical dosage forms and the results were

statistically compared with the reported one.

Keywords

International Publications Awards
Cairo University

الاسم : د / غادة مصطفى السيد

القسم : الكيمياء التحليلية كلية الصيدلة

Utilization of 4-Chloro-7-Nitro-2,1,3-Benzoxadiazole (NBD-Cl) For Kinetic Spectrophotometric Assay of Befunolol Hydrochloride in Its Pharmaceutical Formulation

Mostafa A. Shehata*, Ghada M. El-Sayed, and Laila E. Abdel- Fattah

ISSN : 1060-3271 **Impact Factor:** 1.046

Journal: JOURNAL OF AOAC INTERNATIONAL 89 (2006)

Abstract

A simple, accurate, precise and sensitive kinetic spectrophotometric method for determination of befunolol hydrochloride is described. The method is based on the formation of a colored product with 4-chloro-7-nitro-2, 1, 3-benzoxadiazole (NBD-Cl) in methanol at 70o C for 45 min. The red colored product is measured at 523 nm. The optimization of various experimental conditions is described; Beer's law is obeyed in the range 5-40 µg ml-1. The results obtained showed good recoveries (100.1% ± 0.8035). Application of the proposed method to a pharmaceutical formulation is successfully achieved. The determination of befunolol hydrochloride by fixed time, fixed concentration and rate constant methods are feasible with the calibration equation obtained. However, the fixed time method proved to be more applicable.

Keywords

Kinetic determination, Befunolol hydrochloride, NBD-Cl.

International Publications Awards
Cairo University

الاسم : د / غنية سيد حسن ابراهيم

القسم : الكيمياء الصيدلية كلية الصيدلة

Synthesis of Furo-Salicylanilides and Their Heterocyclic Derivatives with Anticipated Molluscicidal Activity

Ghaneya Sayed Hassan, Gehan Hegazy Hegazy, Hany Mohamed Safwat

ISSN : 0365-6233 **Impact Factor:** 1.129

Journal: Arch. Pharm. Chem 47 (2006)

Abstract

The synthesis of new furo-salicylanilides and their heterocyclic derivatives is described. Twenty- three compounds were screened for their molluscicidal activity against Biomphalaria alexandrina snails, the intermediate host of Schistosoma mansoni. Five of the tested compounds showed no activity, while eighteen compounds showed strong to moderate activity using bayluscide as a reference.

Keywords

1,4-Benzoxazepine-3,5-dione; 1,3-Benzoxazine-2,4-diones; Furo-salicylanilides; Molluscicidal activity.

International Publications Awards
Cairo University

الاسم : أ.م / فاطمة عبد الفتاح رجب

كلية الصيدلة القسم : الكيمياء الصيدلية

Sysnthesis of Certain New Thieno(2.3-D) Pyrimidines as Potential Antitumor and Radioprotective Agents

Mostafa M. Ghorab*, Fatma A. Ragab**, Eman Noaman***, Helmy I. Heibal, and Marwa Galall

ISSN : 0004-4172 **Impact Factor:** 0.687

Journal: ARZNEIMITTEL-FORSCHUNG-DRUG RESEARCH 7 553-560 (2006)

Abstract

During research on antJcancer and ra¬dioprotective heterocycUc compounds containing thiophene ring 5-10,15,19, thleno[2,3-d]pyrlmldlnes 11-14 and bls¬compound having thleno[2,3-d)pyrlmld¬Ine 18 were synthesized. The synthesized compounds were characterized by ele¬mental ananlysls, lR, IH-NMR and mass spectral data. Some of the obtained com¬pounds showed Interesting antJtumor and radioprotective activities.

Keywords

Antitumor agents; Radioprotective agents; Thieno[2,3-d] pyrimidines; Synthesis.

International Publications Awards
Cairo University

الاسم : أ.م / فاطمة عبد الفتاح رجب

القسم : الكيمياء الصيدلية كلية الصيدلة

Synthesis of Some Novel Sulfur Containing Triazolothienopyrimidines and Biscompounds as Possible Antitumor and Radioprotective Agents

Hebny I. Heiba*, FatmaA. Ragab**, Eman Noaman***, Moustafa. M. Ghorab* and Marwa Galal*

ISSN : 0004-4172 **Impact Factor:** 0.687

Journal: ARZNEIMITTEL-FORSCHUNG-DRUG RESEARCH 8 593-599 (2006)

Abstract

The syntheses of novell,2,4-trlazolothl¬enopyrlmldlne derivatives (4a,b), thlo¬urea derivatives (5-8) and blscompounds having a thleno[2,3-d) pyrlmldlne nucleus (13-16) utilizing the 2-lsothlocyanato de¬rivatives 2a,b are reporled. The struc¬tures of these compounds were con¬Drmed by mlcroanalysls, JR, lH-NMR and mass spectrometry. Preliminary bio¬logical studies of some synthesized com¬pounds showed promising antltumor and radioprotective activities.

Keywords

Antitumor agents; Radioprotective agents; Thieno[2,3-d] pyrimidines; Antitumor and Radioprotectice action; Synthesis.

International Publications Awards
Cairo University

الاسم : أ.د / كاميليا محمود امين

كلية الصيدلة القسم : الكيمياء الصيدلية

New Quinoxaline 1,4-Di-N-Oxides. Part 1:Hypoxia-Selective Cytotoxins and Anticancer Agents Derived From QuinoxAline 1,4-Di-N-Oxides

Kamelia M. Amin* Magda M. F. Ismail** Eman Noaman*** Dalia H. Solimanb** and Yousry A. Ammard****

ISSN : 0968-0896 **Impact Factor:** 2.286

Journal: Bioorganic & Medicinal Chemistry 14 6917-6923 (2006)

Abstract

Hypoxic cells which are common feature of solid tumors are resistant to both anticancer drugs and radiation therapy. Thus, the identification of drugs with the selective toxicity toward hypoxic cells is an important target in anticancer chemotherapy. Tirapazamine has been shown to be an efficient and selective cytotoxin after bioreductive activation in hypoxic cells which is thought to be due to the presence of the 1,4-di-N-oxide. A new series of quinoxaline 1,4-di-N-oxides and fused quinoxaline di-N-oxides were synthesized and evaluated for hypoxic–cytotoxic activity on EAC cell line. Compound 10a was the most potent cytotoxin IC50
0.9 lg/mL, potency 75 lg/mL, and was approximately 15 times more selective cytotoxin (HCR > 111) than 3-aminoquinoxaline-
2-carbonitrile which has been used as a standard (HCR > 7.5). Compounds 4 and 3a,b were more selective than the standard. In addition, antitumor activity against Hepg2 (liver) and U251 (brain) human cell lines was evaluated, compounds 9c and 8a were the most active against Hepg2 with IC50 values 1.9 and 2.9 lg/mL, respectively, however, all the tested compounds were nontoxic against U251 cell line.

Keywords

Quinoxaline 1,4-di-N-oxide; Fused quinoxaline di-N-oxide; Antitumor activity.

الاسم : أ.د / محمد تقى الدين خيال

كلية الصيدلة القسم : الادوية والسموم

Mechanisms Involved in The Gastro-Protective Effect of STW 5 (Lberogast) and its Components Against Ulcers and Rebound Acidity

M.T. Khayyal*, M. Seif-El-Nasr*, M.A. El-Ghazaly**, S.N. Okpanyi***, O. Kelber***, D. Weiser***

ISSN : 0944-7113 **Impact Factor:** 1.348

Journal: Phytomedicine 5 56-66 (2006)

Abstract

The protective effect of a commercial preparation (STW 5, Iberogasts), containing the extracts of bitter candy tuft, lemon balm leaf, chamomile flower, caraway fruit, peppermint leaf, liquorice root, Angelica root, milk thistle fruit and greater celandine herb, against the development of gastric ulcers was previously reported in an earlier publication (Khayyal et al., 2001). All extracts produced a dose dependent anti-ulcerogenic effect associated with a reduced acid output, an increased mucin secretion, an increase in prostaglandin E2 release and a decrease in leukotrienes. The effect on pepsin content was not uniform and did not seem to bear a relationship with the anti-ulcerogenic activity. The best effects were observed with the combined formulation, STW 5. Furthermore, the effect of the latter in protecting against the development of rebound gastric acidity was examined experimentally in rats and compared with the effect of some commercial antacid preparations (Rennies, Talcids and Maaloxans). A model of testing rebound acidity was developed by inducing a marginal increase in gastric acidity through the administration of indomethacin, in such a way that it could be easily neutralized, allowing any eventual secondary increase in acidity to be measured within a few hours of administration. In addition, the serum gastrin level was measured after drug treatment to establish any correlation between it and any rebound acidity. The results obtained demonstrated that STW 5 did not only lower the gastric acidity as effectively as the commercial antacid, but it was more effective in inhibiting the secondary hyperacidity. Moreover, STW 5 was capable of inhibiting the serum gastrin level in rats, an effect which ran parallel to its lowering effect on gastric acid production.
r

Keywords

STW 5; Iberogast; Iberis amara; Gastric ulcer; Indomethacin; Gastric mucosa; Mucin; Prostaglandin E2; Leukotriene.
D4; Gastrin; Acid rebound; Rebound acidity

International Publications Awards
Cairo University

الاسم : أ.د / مصليحى رجب مصيلحى

كلية الصيدلة القسم : العقاقير

Development of a High Performance Liquid Chromatographic Method for Systematic Quantitative Analysis of Chemical Constituents in Rhubarb

Katsuko KOMATSU,*,** Yorinobu NAGAYAMA,* Ken TANAKA,* Yun LING,*** Purusotam BASNET,**** and Meselhy Ragab MESELHY*****

ISSN : 0009-2363 **Impact Factor:** 1.246

Journal: CHEMICAL & PHARMACEUTICAL BULLETIN 941-947 (2006)

Abstract

HPLC methods for the systematic determination of 30 compounds in Rhei Rhizoma (rhubarb) were devel¬oped. Using a combination of mobile phase gradient conditions and UV detection at 280 nm, all 30 compounds were separated satisfactorily with low detection limits (0.05-2 pg/ml). The developed methods provided a reliable calibration curve for each compound. By adopting these methods, the determination of 30 compounds in three kinds of rhubarb samples, derived from Rheum tanguticum, R. pa/matum and R. officina/e, was achieved. The constituent pattern of each rhubarb was clearly characterized through the quantitative composition of 30 major constituents of rhubarb.

Keywords

Rheum; HPLC; RG-tannin; Rhatannin; Quantitative comparison.

International Publications Awards
Cairo University

الاسم : أ.د / مصليحى رجب مصيلحى

كلية الصيدلة القسم : العقاقير

Comparative Study of Chemical Constituents of Rhubarb from Different Origins

Katsuko KOMATSU,*,** Yorinobu NAGAYAMA,* Ken TANAKA,* Yun LING,*** Purusotam BASNET,**** and Meselhy Ragab MESELHY*****

ISSN : 0009-2363 **Impact Factor:** 1.246

Journal: CHEMICAL & PHARMACEUTICAL BULLETIN 54 1491-1499 (2006)

Abstract

A comparative study of the pharmacologically active constituents of 24 rhubarb samples, which were identi- fied genetically as Rheum tanguticum, 3 intraspecies groups of R. palmatum and R. officinale, was conducted using reversed-phase high performance liquid chromatography (HPLC) methods. Thirty compounds belonging to anthraquinones, anthraquinone glucosides, dianthrones, phenylbutanones, stilbenes, flavan-3-ols, procyani- dins, galloylglucoses, acylglucoses, gallic acid, and polymeric procyanidins were analyzed quantitatively. The drug samples derived from the same botanical source showed similar chromatographic profiles, and the compa- rable specific shape that appeared in the 10-directed radar graphs constructed on the basis of the results of quantitative analysis indicated the relationship between chemical constituent patterns and genetic varieties of rhubarb samples.

Keywords

Rhei Rhizoma; Rheum; Genetic variety; HPLC; Quantitative comparison.

International Publications Awards
Cairo University

الاسم : أ.د / نبال درويش الطنبولى

كلية الصيدلة القسم : الكيمياء التحليلية

Biochemical Study of the Anti-diabetic Action of the Egyptian Plants Fenugreek and Balanites

Mohamed Z. Gad*, Maha M.EL – Sawalhi**, Manal F. Ismail** and Nibal D. El-Tanbouly***

ISSN : 0300-8177 **Impact Factor:** 1.681

Journal: Molecular and Cellular Biochemistry 281 174-183 (2006)

Abstract

Fenugreek and Balanites are two plants commonly used in Egyptian folk medicine as hypoglycemic agents. In the present study, the effects of 21 days oral administration of Fenugreek seed and Balanites fruit extracts (1.5 g / kg bw) on liver and kidney glycogen content and on some key liver enzymes of carbohydrate metabolism in STZ- diabetic rats were studied. In addition, the effects of these two plant extracts on intestinal α-amylase activity in vitro and starch digestion and absorption in vivo were also examined. Results indicated that single injection of STZ (50 mg/kg bw) caused 5 folds increase in blood glucose level, 80% reduction in serum insulin level, 58% decrease in liver glycogen and 7 folds increase in kidney glycogen content as compared to normal levels. The activity of glucose-6- phosphatase was markedly increased whereas the activities of both glucose-6-phosphate dehydrogenase and phospho-fructokinase were significantly decreased in the diabetic rat liver. Administration of Fenugreek extract to STZ-diabetic rats reduced blood glucose level by 58%, restored liver glycogen content and significantly decreased kidney glycogen as well as liver glucose-6-phosphatase activity. Meanwhile, Balanites extract reduced blood glucose level by 24% and significantly decreased liver glucose-6-phosphatase activity in diabetic rats. On the other hand, our results demonstrated that both Fenugreek and Balanites extracts were able to in vitro inhibit α-amylase activity in dose dependent manner. Fenugreek was more potent inhibitor than Balanites. This inhibition was reversed by increasing substrate concentration in a pattern which complies well with the effect of competitive inhibitors. Furthermore, this in vitro inhibition was confirmed by

in vivo suppression of starch digestion and absorption induced by both plant extracts in normal rats. These findings suggest that the hypoglycemic effect of Fenugreek and Balanites is mediated through insulinomimetic effect as well as inhibition of intestinal α-amylase activity.

Keywords

Alpha-Amylase; Balanites; Fenugreek; Glucose; Gluconeogenesis; Glycogen; Glycolysis; Hypoglycemic Action; HMP Shunt; Insulin; Key Enzymes of Carbohydrate Metabolism; Streptozotocin-Induced Diabetes; Starch Digestion and Absorption; Rats.

International Publications Awards
Cairo University

الاسم : أ.د / نسرين خميس رمضان

كلية الصيدلة القسم : الكيمياء التحليلية

Stability-Indicating Methods for the Determination of Disopyramide Phosphate

Maissa Y. Salem, Nesrin K. Ramadan and Azza A. Moustafa and Mohamed G. EI-Bardiey

ISSN : 1060-3271 **Impact Factor:** 1.046

Journal: JOURNAL OF AOAC INTERNATIONAL 89,4 976-986 (2006)

Abstract

Four methods were developed for the determination of intact disopyramide phosphate in the presence of its degradation product. In the first and second methods, third derivative spectrophotometry and first derivative of the ratio spectra were used. For the third derivative spectrophotometric method, the peak amplitude was measured at 272 nm, while for the derivative ratio spectrophotometric method, disopyramide phosphate was determined by measuring the peak amplitude at 248 nm and 273 nm. Both methods were used for the determination of disopyramide phosphate in the concentration range 12.5-87.5 Jlg/ml, with corresponding mean recovery 100.82 ± 0.682% for the first method and 99.84 ± 0.707% and 99.62 ± 0.734% for the second method at 248 nm and 273 nm , respectively . In the third method, ion selective electrode using phosphotungstic acid as anionic exchanger, PVC as polymer matrix and dibutylsebacate as plasticizer was fabricated and employed for the determination of disopyramide phosphate in pure powder form in the concentration range 10-2_10-5 M . The slope was found to be 58.5 (m V/decade) and the average recovery was 99.90±1.590% . The fourth method depends on the quantitative densitometric determination of the drug in concentration range of 0.25-2.5 Jlg/spot using silica gel 60 F245 plates and ethyl acetate: chloroform: ammonium hydroxide (85 : 10 : 5 v/v/v) as mobile phase with corresponding mean accuracy 100.26±1.116%. The four proposed methods were found to be specific for disopyramide phosphate in presence of up to 80% of its degradation product for the spectrophotometric methods, 90% of its degradation for the densitometric method and 40% for the ISE method . The four

proposed procedures were successfully applied for the determination of disopyramide phosphate in Norpace capsules. Statistical comparison between the results obtained by these methods and the official method of the drug was done and no significant difference was found.

Keywords

Faculty of Medicine

International Publications Awards
Cairo University

الاسم : أ.د / إيناس زكريا أحمد

كلية الطب القسم : الطفيليات

Malaria in A Holoendemic Area of Burkina Faso: A Cross-Sectional Study.

August Sich, Nadja Oste. Inas Z.abd-el Aziz ,Gabriele Sdeglbauer, Hannes Wickert . Jeremy Mclean, Bocar A. Kouyat, Heiko becher, Michael Lanzer

ISSN : 0932-0113 **Impact Factor:** 1.226

Journal: PARASITOLOGY RESEARCH 98 595-599 (2006)

Abstract

A malaria survey of the entire population of a village in Western Burkina Faso (n=I,561) was conducted to assess malaria endemicity. The study population was examined for symptoms characteristic ofmalarla including fever. anaemia. splenomegaly and parasites present in thick blood films. In the overall study population, the prevalence of Plasmodium spp. infection by microscopic examination of thick blood films was 79.0% (1,233/1,561). In asubcl:hort with 20 I individuals, PeR techniques found' I prevalence rate for all Plasmodium spp. of 92.0% (I SSI 201), while microscopy fuund one of 80.6% (1621201). A combination of both methods gives a rate of 95.5% (I 92120 1). Though unlvariate logistic analyses l\f olovatcd body temperature., anaemia, splenomegaly and age showed them all to be predictors of or risk factors for an Infectlon, only elevated body temperature and age were predictors in multivariate logistic analysis. However, tho symptom of splenomegaly did show a highly significant association with infection by multiple species of Plasmodium.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / تيمور مصطفى إبراهيم

كلية الطب القسم : طب وجراحة امراض الذكورة والتناسل

Reactive Oxygen Species and Antioxidants Relationship in the Internal Spermatic Vein Blood of Infertile Men with Varicocele

Taymour Mostafa*, Tarek H. Anis*, Sherif Ghazi*, Abdel Rahman El-Nashar*, Hager Imam** and Ihab A. Osman*

ISSN : 1008-682X **Impact Factor:** 1.302

Journal: ASIAN JOURNAL OF ANDROLOGY 8 451-454 (2006)

Abstract

Aim: To assess the relation of reactive oxygen species (ROS) and antioxidants in the internal spermatic vein blood compared to the peripheral venous blood. Methods: Sixty-eight infertile oligoasthenozoospemic patients associated with varicocele were investigated. During inguinal varicocelectomy, blood samples of internal sper- matic as well as median cubital veins were withdrawn. Three ROS factors (malondialdehyde [MDA], hydrogen peroxide H2O2, nitric oxide [NO]) and four antioxidants (superoxide dismutase [SOD], catalase [Cat], glutathione peroxidase [GPx] and vitamin C) were estimated in these blood samples. Results: Mean levels of tested ROS factors were significantly higher in the internal spermatic venous blood compared to those in the peripheral one (mean ± SD) (MDA 18.7 ± 1.4 nmol/mL vs. 15.4 ± 1.4 nmol/mL, H2O2 43.6 ± 8.0 μmol/mL vs. 30.8 ± 8.1 μmol/mL, NO 2.3 ± 0.5 nmol/L vs. 1.6 ± 0.4 nmol/L, $P < 0.01$). Mean levels of tested antioxidants were significantly lower in the internal spermatic venous blood compared to those in the peripheral one (superoxide dismutase 1 690.7 ± 130.0 U/mL vs. 1 818.5 ± 143.0 U/mL, catalase 38.9 ± 6.1 mol/L vs. 47.9 ± 10.2 mol/L, GPx 20.4 ± 8.1 U/mL vs. 23.0 ± 8.4 U/mL, vita- min C 0.3 ± 0.1 vs. 0.4 ± 0.1 mg/dL, $P < 0.05$). Conclusion: Internal spermatic venous blood of infertile male cases associated with varicocele demonstrated elevated levels of ROS and decreased levels of antioxidants compared to peripheral venous circulation.

Keywords

Male Infertility; Varicocele; Spermatic Vein; Reactive Oxygen Species; Antioxidants.

International Publications Awards
Cairo University

الاسم : أ.د / تيمور مصطفى إبراهيم

كلية الطب القسم : طب وجراحة امراض الذكورة والتناسل

Beta- Endorphin in Serum and Seminal Plasma in Infertile Men

Shawky El- Haggar*, Salah El- Ashmawy**, Ahmed Attia*, Taymour Mostafa*, M. M. Farid Roaiah*,
Ashraf Fayez*, Sherif Ghazi*, Wael Zohdy*, Nagwa Roshdy***

ISSN : 1008-682X **Impact Factor:** 1.302

Journal: ASIAN JOURNAL OF ANDROLOGY 6 709-712 (2006)

Abstract

To access beta-endorphTn levels in serum as well as seminal plasma in different infertile male groups. METHODS: Beta-endorphin was estimated in the serum and seminal plasma by enzyme-linked immunosorbent assay (EUSA) method in 80 infertile men equally divided into four groups: non-obstructlve azoospermia (NOA), obstructive azoospermia (OA), congenital bilateral absent vas deferens (CBVAO) and asthenozoospermia. The results were compared to those of 20 normozoospermic proven fertile men. RESULTS: There was a decrease in the mean levels of beta-endorphin in the seminal plasma of all successive infertile groups (mean +/- SO: NOA 51.30 +/- 27.37, OA 51.88 +/- 9.47, CBAVO 20.36 +/- 13.39, asthenozoospermla 49.26 +/- 12.49 pg/ml, respectively) compared to the normozoospermlc fertile control (87.23 +/29.55 pg/ml). This relation was not present in mean serum level of beta-endorphin between four infertile groups (51.09 +/- 14.71,49.76 +/- 12.4, 33.96 +/- 7.2,69.1 +/- 16.57 pg{ml, respectively) and the fertile control group (49.26 +/- 31.32 pg/ml). The CBVAO group showed the lowest seminal plasma mean level of beta-endorphin. Testicular contribution of seminal beta-endorphin was estimated to be approximately 40%. Seminal beta-endorphin showed significant correlation with the sperm concentration (r = 0.699, P = 0.0188) and nonsignificant correlation with its serum level (r = 0.375, P = 0.185) or with the sperm motility percentage (r = 0.470, P = 0.899). CONCLUSION: The estimation of beta-endorphin alone is not conclusive to evaluate male reproduction as ther~ are many other opiates

acting at the hypothalamic pituitary gonadal axis.

Keywords

Azoospermia; Beta- Endorphin; Male Infertility; Opioid Peptides; Semen; Seminal; Plasma.

International Publications Awards
Cairo University

الاسم : أ.د / تيمور مصطفى إبراهيم

كلية الطب القسم : طب وجراحة امراض الذكورة والتناسل

Effect of Smoking on Seminal Plasma Ascorbic Acid in Infertile and Fertile Males

T. Mostafa*, G. Tawadrous**, M. M. F. Roaia*, M. K. Amer*, R. A. Kader** & A. Aziz***

ISSN : 0303-4569 **Impact Factor:** 1.277

Journal: ANDROLOGIA 38 221-224 (2006)

Abstract

This work aimed to assess the relationship of seminal ascorbic acid levels with smoking in infertile males. One hundred and seventy men were divided into four groups: nonobstructive azoospermia [NOA: smokers (n = 20), nonsmokers (n = 20)]; oligoasthenozoospermia [smokers (n = 30), nonsmokers (n = 20)]; asthenozoospermia [smokers (n = 20), nonsmokers (n = 20)] and normozoospermic fertile men [smokers (n = 20), nonsmokers (n = 20)]. The patients underwent medical history, clinical examination, conventional semen analysis and estimation of ascorbic add in the seminal plasma calorimetrically. There was a significant decrease in the mean seminal plasma ascorbic acid levels in smokers versus nonsmokers in all groups (mean +/- SD; 6.03 +/2.18 versus 6.62 +/- 1.29, 7.81 +/- 1.98 versus 9.44 +/2.15,8.09 +/- 1.98 versus 9.95 +/- 2.03, 11.32 +/- 2.15 versus 12.98 +/- 12.19 mg dl(-l) respectively). Fertile subjects, smokers or not, demonstrated significant higher seminal ascorbic acid levels than any infertile group. Seminal plasma ascorbic acid in smokers and nonsmokers was correlated significantly with sperm concentration ($r = 0.59, 0.60, P < 0.001$), sperm motility ($r = 0.65,0.55, P < 0.001$) and negatively with sperm abnormal forms per cent ($r = -0.53, -0.50, P < 0.001$). Nonsignificant correlations were elicited with semen volume ($r = 0.2,0.09$) or liquefaction time ($r = 0.03, 0.06$). It is concluded that seminal plasma ascorbic acid decreased significantly in smokers and infertile men versus nonsmokers and fertile men, and is significantly correlated with the main sperm parameters: count, motility and normal morphology. Also, dgarette smoking is assodated with reduced semen main parameters

that could worsen the male fertilizing potential, especially in borderline cases.

Keywords

Ascorbic Acid; Male Infertility; Semen; Seminal Plasma; Smoking.

International Publications Awards
Cairo University

الاسم : أ.د / تيمور مصطفى إبراهيم

كلية الطب القسم : طب وجراحة امراض الذكورة والتناسل

Melatonin Hormone Profile in Infertile Males

Hosni Awad*, Fawzy Halawa, Taymour Mostafa* and Hazem Atta

ISSN : 0105-6263 **Impact Factor:** 2.308

Journal: INTERNATIONAL JOURNAL OF ANDROLOGY 29 409-413 (2006)

Abstract

Melatonin is a hormone produced by the pineal gland. There is much controversy about its relationship to the male reproductive process. In this study, seminal plasma as well as the serum melatonin levels were studied in different infertile male groups and were correlated with their semen parameters and hormonal levels. One hundred twenty male cases subdivided into six equal groups were consecutively included; fertile normozoospermic men, oligoasthenozoospermia (OA), OA with leucocytospermia, OA with varicocele, non-obstructive azoospermia (NOA) with high serum follicle stimulating hormone (FSH) and NOA with normal FSH. Semen analysis, estimation of melatonin, FSH, testosterone (T) and prolactin (PRL) hormone was carried out. Mean level of serum melatonin was higher than its corresponding seminal concentrations in all investigated groups with a positive correlation between their levels ($r = 0.532$, $P = 0.01$). Serum and seminal plasma melatonin levels in all infertile groups were reduced significantly compared with their levels in the fertile group. The lowest concentrations were in OA with leucocytospermia group. Melatonin in both serum and semen demonstrated significant correlation with sperm motility ($r = 607$, 0.623 respectively, $p = 0.01$). Serum melatonin correlated positively with serum PRL ($r = 0.611$, $P = 0.01$). It may be concluded that melatonin may be involved in the modulation of reproductive neuroendocrine axis in male infertility. Also, low levels of melatonin in semen were observed in infertile groups having reduced sperm motility, leucocytospermia, varicocele and NOA.

Keywords

Antioxidants; Azoospermia; Male Infertility; Melatonin; Semen; Varicocele.

International Publications Awards
Cairo University

الاسم : أ.د / جمال مصطفى محمد على سعيد

كلية الطب القسم : الجراحة العامة

Microbial Pattern and Antimicrobial Resistance,a Surgeon's Perspective: Retrospective Study in Surgical Wards and Seven Intensive-Care Units in Two University Hospitals in Cairo, Egypt

Gamal Moustafa Saied

ISSN : 1018-8665 **Impact Factor:** 1.832

Journal: Dermatology 212(suppl 1) 8-14 (2006)

Abstract

Significant morbidity and mortality in surgi- cal practice is due to infection with resistant pathogens. Data from Egyptian hospitals may reflect a peculiar pat- tern. Methods: Retrospective study of antimicrobial sus- ceptibility of 1,064 isolates from patients in surgical zones and intensive-care units (ICUs) in the largest 2 hos- pitals in Cairo in 2003. Results: The infection rate in sur- gical wards was 0.41%, mostly surgical site infections. Cardiothoracic wards showed higher rates (0.52%). In ICUs, the infection rate was 6.51%, the majority were re- spiratory. The highest resistance rate was shown by Staphylococcus aureus (23.8%), Pseudomonas (14.9%) and Escherichia coli (10.48%). Enterococci and Citrobac- ter had rates below 1%. Pseudomonas aeruginosa had the highest resistance rate with third-generation cepha- losporins (Cef3) and the lowest with imipenem, while for Enterobacter and Klebsiella it was highest with Cef3 and lowest with imipenem. E. coli showed the highest rate with quinolone 2 and Cef3, but there was no resistance to imipenem. Acinetobacter demonstrated the highest resistance rate with quinolone 2 and the lowest with fourth-generation cephalosporins (Cef4), while for meth-icillin-resistant S. aureus it was 60%. All enterococci were sensitive to vancomycin. Conclusion: The study provides meaningful data on a high antimicrobial resis- tance in Egypt. Failure of hospital hygiene and overuse of antibiotics are considered responsible.

Keywords

Antimicrobial resistance Egypt Bacterial susceptibility Antibiotics

International Publications Awards
Cairo University

الاسم : أ.د / حنان محمد فتحى على

كلية الطب القسم : طب الاطفال

Sensitivity and Specifty of Vvarious Ttests for The Diagnosis of Helicobacter Pylori in Egyptian Childern

Robert W. Frenck, Jr, Md*, Hanan Mohamed Fathy, MD**, May Sherif, MD***, Zaynab Mohran, PhD***, Hanan ElMohammedy, PhD***, Wagdy Francis, PhD***, David Rockabrand

ISSN : 0031-4005 **Impact Factor:** 4.272

Journal: Official Journal of The American Academy of Pediatrics 1194-1204 (2006)

Abstract

OBJECTIVES. Many noninvasive methods (using breath, blood, and stool samples) are available to diagnose Helicobacterpylori. However, because the noninvasive tests are proxy measures of the infection, they need validation before use. Factors that may affect test validity include patient age, gender, and geographic location. Because no data were available on the validation of noninvasive tests for the diagnosis of Hpyloriamong children in the Middle East, this study was performed. METHODS. Children between 2 and 17 years of age evaluated at the Cairo University School of Medicine pediatric gastroenterology clinic who were already scheduled for upper endoscopy were eligible for enrollment in the study. At the time of endoscopy, 3 biopsies were collected and used for rapid urease, histology, and culture, respectively. All children also donated a sample of stool and blood and had a urea breath test performed. Stool and serum samples were tested for the presence of Hpyloriby using commercially available enzyme-linked immunosor¬bent assay– based technology. The sensitivity, specificity, and positive and negative predictive values were calculated for each noninvasive test used in the study. Receiver operating curves also were charted to determine optimal cut points for the various tests when used in the current study cohort. RESULTS. One hundred eight children were enrolled in the study, with 52 children being under 6 years of age. The urea breath test and HpStar (DakoCytomation, Norden, Denmark) stool enzyme-linked immunosorbent assay kit had the highest sensitivity and specificity (sensitivity and

specificity: 98 and 89 [urea breath test] and 94 and 81 [HpStar], respectively), whereas the serologic kit had an unaccept¬ably low sensitivity (50%). The sensitivity of neither the urea breath test nor the HpStar tests was affected by subject age, but specificity of the HpStar test, although still high, was significantly lower among children under 6 years. Receiver operat¬ing curves found optimal cut points of the urea breath test at 6.2 over baseline and of the HpStar at 0.25 enzyme-linked immunosorbent assay units.

Keywords

Helicobacter; Diagnosis; Urea Breath Test; Children; Egypt

International Publications Awards
Cairo University

الاسم : أ.د / خالد حامد سالم

كلية الطب القسم : جراحة العظام

Hybrid External Fixation for Arthrodesis in Knee Sepsis

Khaled Hamed Salem, M.D, Peter Keppler, MD, Lothar Kinzl, MD, and Andreas Schmelz, MD

ISSN : 0009-921X **Impact Factor:** 1.528

Journal: CLINICAL ORTHOPAEDICS AND RELATED RESEARCH 451 113-120 (2006)

Abstract

Several techniques for knee fusion have been described with success rates ranging from 29% to 100%, with worse results occurring in patients with joint sepsis. We treated 21 patients with persistent infections using knee arthrodesis with a hybrid Ilizarov frame at our institution. There were 13 men and eight women ranging from 21 to 75 years (mean, 49.7 years). Sixteen patients had chronic osteomyelitis and five had previous fusion trials. Two patients required bone transport using the same arthrodesis frame. We corrected associated malalignment in three patients. Solid knee fusion was achieved in all but one patient after a mean external fixation time of 22.7 weeks (range, 11-47 weeks). Limb shortening averaged 2.8 cm (range, 1.5-5 cm). No patients required secondary bone grafting to achieve fusion. Nine patients had complications develop, three of whom required reresection and frame application to treat persistent infection or delayed union. Our results emphasize the clinical success of using the Ilizarov fixator for knee arthrodesis after persistent sepsis.

Keywords

الاسم : أ.د / خالد حامد سالم

كلية الطب القسم : جراحة العظام

Flexible Intramedullary Nailing in Pediatric Lower Limb Fractures

Khaled Hamed Salem, M.D, Isabel Lindemann, MD, and Peter Keppler, MD

ISSN : 0271-6798 **Impact Factor:** 0.897

Journal: Williams & Wilkins. 26 505-509 (2006)

Abstract

Seventy-three children (48 boys and 25 girls; mean age, 5.7 years) with unilateral femoral or tibial shaft fractures were treated using elastic intramedullary nails at the authors' institution. There were 61 simple type A fractures (84%) and 12 wedge type B fractures (16%). All but 3 children had closed fractures. Asso.ciated injuries were seen in one third of the cases. All fractures were reduced by closed manipulation. Union was achieved in all cases without additional intervention. Technical problems occurred in few patients. Improper nail length was seen in 4 cases. None of the study patients developed deep infection. No angulation greater than 15 degrees was found after femoral fractures. Nine patients had length discrepancy greater than 10 mm. Spiral fractures showed a tendency for shortening whereas transverse fractures were more associated with post-traumatic lengthening. No significant axial malalignment or shortening was seen in tibial fractures. Torsional differences of greater than 15 degrees were detected by computed tomography or navigated ultrasound examination in nearly half of the patients; however, only 4 children had clinically apparent gait changes. The study confirms the satisfactory results of treating pediatric lower limb fractures using elastic nails. Proper surgical technique and intraoperative control of limb alignment can help avoid postoperative deformities.

Keywords

ESIN Nails; Pediatric Femoral Fractures; Torsion; Malalignment; Limb Length Discrepancy.

International Publications Awards
Cairo University

الاسم : أ.د / خالد حامد سالم

كلية الطب القسم : جراحة العظام

Ankle Arthrodesis Using Ilizarov Ring Fixators: A Review of 22 Cases

Khaled Hamed Salem, M.D.*,**, Lothar Kinzl, M.D.* , Andreas Schmelz, M.D.

ISSN : 1071-1007 **Impact Factor:** 0.749

Journal: The American Orthopaedic Foot & Ankle Society, Inc. 764-770 (2006)

Abstract

Background: Orthopaedic surgeons are being increasingly confronted with complex ankle problems that cannot be reliably treated by conventional arthrodesis procedures. The Ilizarov technique can be an alternative salvage method in such cases. Methods: Twenty-two Ilizarov tibiotalar arthrodeses were retro- spectively reviewed. There were 16 men and six women (mean age 49 years). The underlying pathology was infection after internal fixation of ankle or plafond fractures in 16 patients, posttraumatic ankle arthritis in five, and septic arthritis after an infected Achilles tendon repair in one. Five patients had at least one failed previous arthrodesis. Primary iliac crest bone grafting was done in two patients. Proximal tibial lengthening was done in six patients. Results: Twenty-one patients were followed for an average of 29 months. A solid fusion was achieved in all patients by the end of treatment. The external fixation time averaged 27.7 (range 12 to 84) weeks. The mean time spent in a foot frame was 22.3 weeks. Complications occurred in 11 patients, including two nonunions that healed after revision and renewed frame application and four pin track infections. Conclusions: The use of the Ilizarov frame provides a successful salvage method that offers solid bony fusion, optimal leg length, and eradication of infection in complex ankle pathology or failed previous arthrodesis.

Keywords

Ankle Fusion; Circular External Fixation; Ilizarov; Infection.

International Publications Awards
Cairo University

الاسم : أ.د / رشاد برسوم

كلية الطب القسم : الامراض الباطنة

Parasitic Infections in Transplant Recipients.

Rashad S. Barsoum

ISSN : 0028-0836 **Impact Factor:** 29.273

Journal: Nature Clinical Practice Nephrology 2 490 - 503 (2006)

Abstract

Parasitic infections are important complications of organ transplantation that are often overlooked in the differential diagnosis of post¬transplantation pyrexial illness. Although their frequency is unknown, they seem to be much less prevalent than bacterial and viral infections. Only 5% of human pathogenic parasites have been reported to cause significant illness in transplant recipients. Infection can occur via transmission with the graft or blood transfusion, or be acquired de novo from the environment. Rp.a'.1descer,~e of dormant infection can lead to active disease. Post-traHsplantation parasitic disorders tend to duster into two clinical profiles. First, an acute systemic illness with anemia, constitutional manifestations and variable stigmata of organ involvement; acute graft dysfunction can lead to confusion and acute rejection. Protozoa including malarial PI(l.;modium, Leishmania, Trypanosoma and Toxoplasma are associated with this profile. The second typical manifestation encompasses a few localized syndromes, usually associated with the lower gastrointestinal tract, caused by either protozoa (Cryptosporidium and microsporidia) or nematodes (Strongyloides and Ascaris). Dissemination of localized infections can lead to life-threatening systemic manifestations. A high index of suspicion is essential, as diagnosis requires special sampling techniques and laboratory procedures. Definitive diagnosis is usually achieved by detecting the parasite in the patient's tissues or body fluids by histological examination or culture, or by polymerase chain reaction aUlplification of the parasite-specific antigen sequence. Antibody detection using serological techniques is also possible in a few parasitic infections. Certain lesions have characteristic radiological appearances, h<:nce the value of imaging, particularly in the cerebral syndromes. Treatment is usually straightforward (broad spectrum or specific drugs), yet some species are drug resistant.

Keywords

Infection; Nematode; Parasite; Protozoa; Transplant.

International Publications Awards
Cairo University

الاسم : أ.د / سلوى إبراهيم محمد

كلية الطب القسم : الامراض الباطنة

Haploinsufficiency of Pkd2 Is Associated with Increased Tubular Cell Proliferation and Interstitial Fibrosis in Two Murine Pkd2 Models.

Ming Yang Chang*, Emma Parker*, Salwa Ibrahim***, John R. Shortland**, Meguid El Nahas*, John L. Haylor* and Albert C. M. Ong*

ISSN : 0931-0509 **Impact Factor:** 2.976

Journal: Nephrology Dialysis Transplantation. 22 2078-2084 (2006)

Abstract

Autosomal dominant polycystic kidney disease (ADPKD) is the most common inherited human kidney disease and is caused by germline mutations in PKD1 (85%) or PKD2 (15%). It has been estimated that around 1% of tubular cells give rise to cysts, and cell hyperproliferation has been noted to be a cardinal feature of cystic epithelium. Nevertheless, it is uncertain whether the increase in proliferative index observed is an early or late feature of the cystic ADPKD kidney.
Methods. Two Pkd2 mouse mutants (WS25 and WS183) have been recently generated as orthologous models of PKD2. To determine the effect of Pkd2 dosage on cell proliferation, cyst formation and renal fibrosis, we studied renal tissue from Pkd2WS25/WS25 and Pkd2+/– mice by histological analysis. We also examined the proliferative index in archival nephrectomy tissue obtained from patients with ADPKD and normal controls.
Results. The proliferative index of non-cystic tubules in Pkd2 mutant mice as assessed by proliferating cell nuclear antigen and Ki67-positive nuclei was between 1–2%, values 5–10 times higher than control tissue. Similarly, the proliferative index of non-cystic tubules in human ADPKD kidneys was 40 times higher than corresponding controls. In Pkd2 mutant mice, significant correlations were found between the fibrosis score and the mean cyst area as well as with the proliferative index. Of significance, proliferating tubular cells were uniformly positive for polycystin-2 expression in Pkd2+/– kidney.
Conclusion. These results suggest that an increase in cell proliferation is an early event

preceding cyst formation and can result from haploinsufficiency at Pkd2. The possible pathogenic link between tubular cell proliferation, interstitial fibrosis and cyst formation is discussed.

Keywords

ADPKD; Haploinsufficiency; Kidney fibrosis; PKD2; Proliferation; Renal tubule.

International Publications Awards
Cairo University

الاسم : أ.د / منى أحمد أبو ذكرى

كلية الطب القسم : طب الاطفال

Effect of Nitazoxanide for Treatment of Severe Rotavirus Diarrhoea: Randomised Double-Blind Placebo-Controlled Trial

Jean-François Rossignol*, Mona Abu-Zekry**, Abeer Hussein**, and M Gabriella Santoro***

ISSN : 0140-6736 **Impact Factor:** 23.407

Journal: The Lancet 368 (2006)

Abstract

Background Rotavirus is a leading cause of morbidity and mortality in children younger than 5 years, but there is no e!ective treatment. We assessed the activity of nitazoxanide, a broad-spectrum anti-infective drug, against rotavirus in cell culture and in a clinical trial in paediatric patients hospitalised with severe rotavirus diarrhoea.

Methods We did a randomised double-blind placebo-controlled trial in 50 children admitted to the Cairo University Children's Hospital between June 15 and Aug 23, 2005, with severe rotavirus diarrhoea. 38 children aged 5 months to 7 years (median age 11 months) with rotavirus as the sole identified cause of gastroenteritis were enrolled in the clinical study. Patients were randomly assigned either 7•5 mg/kg nitazoxanide as an oral suspension or placebo twice a day for 3 days, and all remained in hospital for 7 days after start of treatment. The primary endpoint was time from first dose to resolution of illness, and analysis was by modified intention-to-treat. This study is registered with ClinicalTrials.gov, number NCT00302640.

Findings Survival analysis showed that the median time to resolution of illness was 31 h (IQR 22–73) for the nitazoxanide-treated group compared with 75 h (51–124) for the placebo group (p=0•0137). No significant adverse events were reported.

Interpretation A 3-day course of nitazoxanide significantly reduced the duration of rotavirus disease in hospitalised paediatric patients. These results are encouraging, and might lead us to think about new approaches to managing rotavirus disease in children.

Faculty of Economic and Policy Science

International Publications Awards
Cairo University

الاسم : أ.د / ثناء أحمد إسماعيل

كلية الاقتصاد والعلوم السياسية القسم : الاحصاء

Bayesian and Fiducial Inference for the Inverse Gaussian Distribution via Gibbs Sampler

Sanaa A. Ismail and Hesham A. Auda

ISSN : **Impact Factor:** 0

Journal: Journal of Applied Statistics 33(8) 787–805 (2006)

Abstract

This paper presents a kernel estimation of the distribution of the scale parameter of the inverse Gaussain distribution under type II censoring together with the distribution of the remaining time. Estimation is carried out via the Gibbs sampling algorithm combined with a missing data approach. Estimates and confidence intervals for the parameters of interest are also presented.

Keywords

Gibbs sampler; Bayesian inference; Fiducial inference.

International Publications Awards
Cairo University

الاسم : أ.د / حسن حسين محمد زكى

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

Women's Utilization of Maternity Care Services in Egypt

ISSN : **Impact Factor:** 0

Journal: Hawaii International Conference on Social Sciences (2006)

Abstract

Objectives This study focuses on the use of maternity care services in Egypt, namely antenatal care, delivery care, and postnatal care. Trends are explored. Women who less utilize the services are identified. Provider choice perspective and determinants are also investigated. Data and Methods Data on the use of maternity care services in this study is drawn from information collected in the 2000 Egypt Demographic and Health Survey and 2003 Egypt Interim Demographic and Health survey for the births occurring during the five years preceding each of the two surveys. Multivariate techniques are used to further examine the determinants of the type of provider on which Egyptian women rely for both antenatal and delivery care services. The basic model used is a standard utility maximizing model. The binomial logit model is used and the odds ratios are presented for the determinants of the type of provider. Results The study confirms the fact that there are marked differences to which Egyptian women use maternity care services and rely on public or private providers for reproductive care depending on the type of services they are seeking. A typical woman who is expected not to be using maternity care services has more children (4 or more), lives in rural areas especially in rural Upper Egypt, is less educated i.e. with no or with some primary education, or is relatively poor. The majority of antenatal care services are provided at private sector facilities, public sector facilities are the source for almost all tetanus toxoid injections, while the provision of delivery services is more evenly divided between public and private facilities. Carefully designing and integrating reproductive health services within the newly adopted program of health sector reform will help improve the quality of current reproductive health services presented at the primary health care units. This will accordingly increase the utilization of

maternity care services and improve equity as well as help Egypt achieve its Millennium Development Goals

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / سمير مصطفى شعراوى

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

Bayesian Identification of Moving Average Models

ISSN : **Impact Factor:** 0

Journal: Communications in Statistics- Theory and Methods 32 1067-1084 (2006)

Abstract

This study approaches the Bayesian identification of moving average processes using an approximate likelihood function and a normal gamma prior density. The marginal posterior probability mass function of the model order is developed in a convenient form. Then one may investigate the posterior probabilities over the grid of the order and choose the order with the highest probability to solve the identification problem. A comprehensive simulation study is carried out to demonstrate the performance of the proposed procedure and check its adequacy in handling the identification problem. In addition, the proposed Bayesian procedure is compared with some non-Bayesian automatic techniques and another Bayesian technique. The numerical results support the adequacy of using the proposed procedure in solving the identification problem of moving average processes
This study approaches the Bayesian identification of moving average processes using an approximate likelihood function and a normal gamma prior density. The marginal posterior probability mass function of the model order is developed in a convenient form. Then one may investigate the posterior probabilities over the grid of the order and choose the order with the highest probability to solve the identification problem. A comprehensive simulation study is carried out to demonstrate the performance of the proposed procedure and check its adequacy in handling the identification problem. In addition, the proposed Bayesian procedure is compared with some non-Bayesian automatic techniques and another Bayesian technique. The numerical results support the adequacy of using the proposed procedure in solving the identification problem of moving average processes

Keywords

Identification; Moving Average Processes; Automatic Techniques; Normal Gamma Density; Posterior Probability Mass Function.

International Publications Awards
Cairo University

الاسم : أ.د / عبد الحميد محمد نجم

كلية الاقتصاد والعلوم السياسية القسم : الاحصاء

Bayesian Interim Analysis of the Mixture of Lomax Distributions

M. Nigm S.A. Ismail E.H. Elkhodary and D.M. Mohamed

ISSN : **Impact Factor:** 0

Journal: InterStat 1-11 (2006)

Abstract

Based on an interim type one censored sample of size n, a Bayesian predictive approach is adopted to obtain the predictive probability that if testing is continued for a further type I censored of size m, a decision will be reached regarding the three parameters of the mixture of Lomax distributions. An informative prior and a non informative prior are considered. Numerical illustration is presented.

Keywords

Bayesian interim analysis; The predictive distribution; The mixture of two Lomax distributions; The posterior distribution; Type I censoring.

International Publications Awards
Cairo University

الاسم : أ.د / علاء عصام الشاذلى

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

Early Warning of Currency Crises: An Econometric Analysis for Egypt

Alaa EI-Shazly

ISSN : **Impact Factor:** 0

Journal: The Middle East Business and Economic Review 18(1) 33-47 (2006)

Abstract

This paper investigates the predictive power of an empirical model that can serve as the basis for an early warning system of currency crises. It employs qualitative response models within a signals framework that monitors the behavior of key economic variables and issues a warning when their values exceed certain critical levels. This framework has the advantage of identifying the source and depth of the economic problems that underlie an increased probability of crisis. It thus provides decision-makers with the necessary information to combat these problems in a timely manner. Taking Egypt as a case study, the paper shows that this class of models, and in particular the extreme value model, captures to a good extent the turbulence in the foreign exchange market and the onset of crises.

Keywords

Currency crises; Signals; Forecasts.

International Publications Awards
Cairo University

الاسم : أ.د / على أحمد محمد إسماعيل

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

On the Optimal Design of Step-Stress Partially Accelerated Life Tests for the Gompertz Distribution with Type-I Censoring

AIi A. Ismail*

ISSN : **Impact Factor:** 0

Journal: Interstat USA 1-14 (2006)

Abstract

This paper studies simple time-step stress Partially Accelerated Life Tests (PAL T). It is assumed that the lifetimes of test units follow a two-parameter Gompertz distribution and are type-I censored. Maximum Likelihood Estimates of model parameters are obtained. Estimates of the variances of the estimators are also presented. In addition, optimum test plans for simple timestep stress test are developed. Finally, for illustration, numerical examples are provided.

Keywords

Reliability; Gompertz distribution; Partial acceleration; Step-stress test; Maximum likelihood estimation; Fisher information matrix; Generalized asymptotic variance; NewtonRaphson method; Optimum test plan; Type-I censoring; Numerical Illustration.

International Publications Awards
Cairo University

الاسم : أ.د / على أحمد محمد إسماعيل

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

Optimum Constant-Stress Partially Accelerated Life Test Plans with Type-II Censoring: the Case of Weibull Failure Distribution

Ali A. Ismail

ISSN : **Impact Factor:** 0

Journal: Interstat USA (2006)

Abstract

This paper deals with simple constant-stress Partially Accelerated Life Tests (PALT) with Type-II censoring. It is assumed that the lifetime at design stress has a Weibull distribution. Statistically optimal PALT plans are developed such that the Generalized Asymptotic Variance (GAV) of the Maximum-Likelihood Estimators (MLEs) of the model parameters at design stress is minimized. For illustration, simulation studies are introduced

Keywords

Reliability; Partially Accelerated Life Tests; Weibull distribution; Constant-stress; maximum likelihood estimation; Fisher information matrix; generalized asymptotic variance; Optimum test plans; Failure-censoring; Monte Carlo simulation.

International Publications Awards
Cairo University

الاسم : أ.د / محمد سالمان طايع

كلية الاقتصاد والعلوم السياسية القسم : العلوم السياسية

Ownership and Co-Ownership in Conflict Prevention in the Framework of the Euro- Mediterranean Partnership

ISSN : **Impact Factor:** 0

Journal: EuroMeSCo 54 1-40 (2006)

Abstract

The rationale behind this research project is the need to prevent violent conflict in the EMP area. In a region where people have long suffered from conflicts and disagreements, it is crucial to find conflict prevention policies that are based on co-ownership, thereby making local populations actors in a cooperation process. In spite of the fact that conflict prevention is contemplated in the Barcelona declaration, and further reinforced in subsequent statements, the Euro-Mediterranean Partnership (EMP) has shown no movement towards the co-ownership of conflict prevention policies. This report gives some ideas about how to create distinct EMP policies, rather than individual state policies that are built on cooperation between broad alliances of northern and southern societies.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / محمد على إسماعيل

كلية الاقتصاد والعلوم السياسى القسم : الاحصاء

Bayesian Generalized Least Squares Approach for Moving Average Models

Mohamed A. Ismail

ISSN : **Impact Factor:** 0

Journal: Journal of Applint statistical science (2006)

Abstract

A new Bayesian method for estimating moving average (MA) models is proposed. The proposed methodology is based on replacing lagged errors of the original MA model with appropriately lagged residuals from a long autoregression. Unlike Broemeling and Shaarawy (1988), the exact structure of the approximation error when replacing true errors with corresponding residuals is derived and used in deriving the posterior distribution of the model parameters. In addition, a modified version of Broemeling and Shaarawy's (1988) method is suggested. The proposed method and original Broemeling and Shaarawy's method and its modified version are compared using several simulation studies and a real data.

Keywords

GLS; Posterior distribution; Multivariate T; W6 series.

الاسم : أ.د / معتز بالله محمد عبد الفتاح

كلية الاقتصاد والعلوم السياسية القسم : العلوم السياسية

Muslim Cultural Entrepreneurs and the Democracy Debate

Moataz A. Fattah* and Jim Butterfield **

ISSN : **Impact Factor:** 0

Journal: Critique: Critical Middle Eastern Studies (2006)

Abstract

Although there are few points of consensus in modern social science, the incompatibility of Islam and democracy is a candidate for one of them. Many Western scholars, only a few of whom have any particular expertise in Islam or the Middle East operate from the implicit, if not explicit assumption that Muslims have one creed (Islam), and thereby one culture, and they collectively share a disdain for modernity and reject democracy as a formula of governance. According to Samuel Huntington, Islam...has not been hospitable to democracy.,,3 Daniel Pipes claims Muslims are not inclined to engage in participatory politics: [N]early all Muslim subjects kept away from politics and became actively engaged only when they had a chance to apply the law or battle non-Muslims.,,4 Bernard Lewis argues that Muslims dominant political tradition has long been that of command and obedience, and far from weakening it, modern times have actually witnessed its intensification. Such representatives of what Yahya Sadowski calls the "New Orientalism" reflect the conventional wisdom of both the social sciences and policy-makers in the West.

Keywords

National Institute of Laser Enhanced Sciences

International Publications Awards
Cairo University

الاسم : د / إفتتان السيد محمد منير عزوز

المعهد القومى لعلوم الليزر القسم : علوم الليزر وتفاعلاته

Photostablity and amplified spontaneous emission in dye-activated new organic-inorganic hybrid material

Hamdan. A. S. At-Shamiri*, I. M. AZZOUZ**, M. Salah Shafik**, and Y. A. Badr**

ISSN : 0928-0707 **Impact Factor:** 1.219

Journal: JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY (2006)

Abstract

This paper reports on the lasing action of some dyes (pyrromethene 597, pyrromethene 567 and Rhodamin B) incorporated into a new organic-inorganic hybrid mate- rial. The amplified spontaneous emission (ASE) was studied under 532 nm, laser excitation in transverse pumping con- figuration for the prepared rod samples. The influence of the dye concentration on the amplified spontaneous emis- sion peak wavelengths, the output energies, the gain and the energy conversion efficiencies were studied. Relatively high efficiencies (up to 64%) were obtained with good pho- tostabilities where a decrease to 30% of the initial am- plified spontaneous emission output energy were observed after pumping by 60,000 shots at relatively high repetition rate (10 Hz) and energy (15 mJ).

Keywords

Dye laser; Solid-state dye laser.

International Publications Awards
Cairo University

الاسم : د / إفتتان السيد محمد منير عزوز

المعهد القومى لعلوم الليزر القسم : علوم الليزر وتفاعلاته

Glycidyl Methacrylate As A New Host Material For Laser Dyes

Hamdan. A. S. At-Shamiri*, I. M. AZZOUZ**, M. Salah Shafik**, and Y. A. Badr**

ISSN : 0021-8995 **Impact Factor:** 1.072

Journal: JOURNAL OF APPLIED POLYMER SCIENCE (2006)

Abstract

This article reports on the laser action of pyrromethene 597 and pyrromethene '167. doped in the novel solid polymeric matrix glycidyl methacrylate. Mirrorless lasing was observed when samples with diameters of 10 mm and lengths of 20 mm, with dtfterent dyes concentrations, were transversely pumped at 532 nm. The influence of the dye concentration on the laser measurements included the peak wavelengths, output energies, conversion efficiencies, and laser gains Relatively high lasing efficiencies (up to - 60%) were obtained from these new polymeric materials with very good photostability. where a decrease of only 65% in the initial laser output energy was observed after pumping by 60,000 shots of 15 mJ at 10 Hz.

Keywords

Dyes/ pigments; Huorescence; Photophysics; Radical polymerization; Solid-state structure.

International Publications Awards
Cairo University

الاسم : أمل عبد الفتاح عمر محمد

القسم : علوم الليزر وتفاعلاته المعهد القومى لعلوم الليزر

Comparison Between Single and Double-Pulse LIBS At Different Air Pressures on Silicon Target

K Amal*. S.H. Elnaby*. V. Palleschi**. A. Salvetti**, M.A. Harith*

ISSN : 0946-2171 **Impact Factor:** 2.056

Journal: APPLIED PHYSICS B-LASERS AND OPTICS (2006)

Abstract

A comparati ve study between single- and double pulse laser induced breakdown spectroscopy (LIBS) was performed on an n-type silicon (Ill) target. A new mobile double pulse instrument for LIBS analysis was used for the measurements. The experiment was carried out at different air pressures of 0.7, 470 and 1000 hPa. It has been found that, in the case of double-pulse LIBS, the emission intensities of atomic and ionic lines are strongly enhanced at higher pressures. Using Stark broadening of the atomic lines of silicon, it was found that the electron number densities for single and double pulses are approximately the same (Ne 0 1017 cm-3). Plasma excitation and ionization temperatures were determined from a Boltzmann plot. The doub!e--pulse laser induced piasma was studied at different interpulse delay times of 1, 2, 5.10, 15,25 and SOilS. The results indicated that the interaction between the laser. plasma and target gives higher atomic and ionic intensities at shorter.
interpulse delay times of 1, 2, 5.10, 15,25 and SOilS. The results indicated that the interaction between the laser. plasma and target gives higher atomic and ionic intensities at shorter.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / على محمد الحسينى سعفان

المعهد القومى لعلوم الليزر القسم : علوم الليزر وتفاعلاته

Investigation of the Electrical Properties of some Dental Composite Restorative Materials before and after Laser Exposure

M.A. ElKestawy *, S.A. Saafan ** , M.M. Shehata ***,and A.M. Saafan ****

ISSN : 0109-5641 **Impact Factor:** 2.056

Journal: Dental Materials 22 885-895 (2006)

Abstract

Some electrical properties, such as piezoelectricity, ac conductivity, dielectric constant and loss tangent of nine commercial types of dental composite restorative materials, have been investigated before and after laser exposure for 3 s to study the effect of a probable laser exposure during some surgeries on the electrical properties of these materials. No piezoelec- tric effect has been found in these materials before and after laser exposure. The materials were found to be good insulators (very poorly conducting materials). The temperature and frequency dependence of ac conductivity, dielectric constant and loss tangent have not shown significant changes in values after laser exposure.

Keywords

Dental composite restorative; materials; Piezoelectricity; ac conductivity; Dielectric constant; Laser.

International Publications Awards
Cairo University

الاسم : أ.د / محمد عبد الحارث محمد

المعهد القومى لعلوم الليزر القسم : علوم الليزر وتفاعلاته

Comparison Lot detection limits, for two metallic matrices, of laser-induced breakdown spectroscopy in the single and double-pulse configurations

Marwa A Ismail, Gabriele Cristoforetti - Siet'imo Legnaioli . Lorenzo Pardini
Vincenzo Palleschi . Azenio Salvetti - Elisabetta Tognoni . Mohamed A. Harith

ISSN : 1618-2642 **Impact Factor:** 2.695

Journal: Anal Bioanal Chem 385 316-325 (2006)

Abstract

Limits of detection have been studied for several elements in aluminium and steel alloys, at atmospheric pressure in air, by use of the single and collinear doublepulse configurations of laser-induced breakdown spectroscopy. For this purpose, calibration plots were constructed
for Mg, AI, Si, Ti, Cr, Mn, Fe, Ni, and Cu using a set of certified aluminium alloy samples and a set of certified steel samples. The investigation included optimization of the experimental conditions to furnish the best signal-tonoise ratio. Inter-pulse delay, gate width, and acquisition delay were studied. The detection limits for the elements of interest were calculated under the optimum conditions for the double-pulse configuration and compared with those obtained under the optimum conditions for single-pulse configuration. Significantly improved detection limits were achieved, for all the elements investigated, and in both aluminium and steel, by use of the double-pulse configuration. The experimental findings are discussed in terms of the measured plasma conditions (particle and electron density, and temperature).

Keywords

Laser-induced breakdown spectroscopy; Double-pulse; AES. UV-visible; Metals/Heavy Metals.

National Cancer Institute

International Publications Awards
Cairo University

الاسم : أ.د / رباب محمد جعفر

المعهد القومى للاورام القسم : طب الاورام

Is a Patient's Self-Reported Health-Related Quality of Life A Prognostic Factor For Survival in Non-Small-Cell Lung Cancer Patients? A Multivariate Analysis of Prognostic Factors of EORTC Study 08975

F. Efficace*, A. Bottomley, E. F. Smit, P. Lianes, C. Legrand, C. Debruyne, F. Schramel, H. J. Smit, R. Gaafar, B. Biesma, C. Manegold, C. Coens, G. Giaccone & J. Van Meerbeeck

ISSN : 0923-7534 **Impact Factor:** 4.319

Journal: Annual of Oncology (2006)

Abstract

Background: The aim of this prognostic factor analysis was to investigate if a patient's self-reported health-related quality of life (HRQOL) provided independent prognostic information for survival in non-small cell lung cancer (NSCLC) patients.
Patients and methods: Pretreatment HRQOL was measured in 391 advanced NSCLC patients using the EORTC QLQ-C30 and the EORTC Lung Cancer module (QLQ-LC13). The Cox proportional hazards regression model was used for both univariate and multivariate analyses of survival. In addition, a bootstrap validation technique was used to assess the stability of the outcomes.
Results: The final multivariate Cox regression model retained four parameters as independent prognostic factors for survival: male gender with a hazard ratio (HR) = 1.32 (95% CI 1.03–1.69; P = 0.03); performance status (0 to 1 versus 2) with HR = 1.63 (95% CI 1.04–2.54; P = 0.032); patient's self-reported score of pain with HR= 1.11 (95% CI 1.07–1.16; P < 0.001) and dysphagia with HR = 1.12 (95% CI 1.04–1.21; P = 0.003). A 10-point shift worse in the scale measuring pain and dysphagia translated into an 11% and 12% increased in the likelihood of death respectively. A risk group categorization was also developed.
Conclusion: The results suggest that patients' self-reported HRQOL provide independent

prognostic information for survival. This finding supports the collection of such data in routine clinical practice.

Keywords

Lung cancer; Prognostic factor; Quality of life; Survival.

International Publications Awards
Cairo University

الاسم : أ.د / رباب محمد جعفر

المعهد القومى للاورام القسم : طب الاورام

Phase II, Open-Label, Randomized Study (SIGN) of Single-Agent Gefitinib (IRESSA) or Docetaxel As Second-Line Therapy in Patients with Advanced Stage Lllb or IV Non-Small-Cell Lung Cancer

Tanja Cufera*, Eduard Vrdoljakb**, Rabab Gaafar*** Inci Erensoy and Kristine Pemberton**** on behalf of the SIGN study group

ISSN : 0959-4973 **Impact Factor:** 1.907

Journal: ANTI-CANCER DRUGS (2006)

Abstract

Our objective was to evaluate gefitinib (lRESSA), an epidermal growth factor receptor tyrosine kinase inhibitor, versus docetaxel as second-line monotherapy for advanced non-small-celllung cancer (NSCLC). SIGN (Second-line Indication of Gefitinib in NSCLC; code 1839IL/0503) was a multicenter, randomized, parallel-group, open-label, phase 11 trial that investigated oral gefitinib (250 mg/day) or i.v. docetaxel (75 mg/m2 every 3 weeks) in patients with advanced NSCLC who had previously received one chemotherapy regimen. The primary objective was assessment of symptom improvement (using the FACT-L Lung Cancer Subscale). Secondary objectives included quality of life (FACT-L total score), response rate (using RECIST>, overall survival and safety. This trial recruited 141 patients (68 to gefitinib and 73 to docetaxel) who received treatment for a median duration of 3.0 (gefitinib) and 2.8 (docetaxel) months. Similar efficacy was observed with gefitinib and docetaxel, 36.8 and 26.0% symptom improvement rates, 33.8 and 26.0% quality-of-life improvement rates, 13.2 and 13.7% objective response rates, and 7.5 and 7.1 months median overall survival, respectively. Fewer drug-related adverse events were observed with gefitinib compared with docetaxel (all grades: 51.5 versus 78.9%; Common Toxicity Criteria grade 3/4: 8.8 versus 25.4%). There were no withdrawals or deaths due to drug-related adverse events with gefitinib, while three patients withdrew and three died due to adverse events in the docetaxel group that were possibly drug related. We conclude

efficacy with gefitinib was similar to docetaxel, but with a more favorable tolerability profile, in the second-line treatment of advanced NSCLC. These results support further investigation of gefitinib in this disease setting.

Keywords

Docetaxel; Epidermal Growth Factor Receptor; Gefitinib.
Non-Small-Celllung Cancer; Second-Line Therapy; EGFR Tyrosine Kinase Inhibitor.

International Publications Awards
Cairo University

الاسم : أ.د / رباب محمد جعفر

المعهد القومى للاورام القسم : طب الاورام

Short-Term Treatment-Related Symptoms and Quality of Life: Results from an International Randomized in Patients with Malignant Pleural Mesothelioma: an EORC Lung Cancer Group and National Cancer Institute, Canada, Intergroup Study

Andrew Bottomley, Rabab Gaafar, Christian Manegold, Sjaak Burgers, Corneel Coens, Catherine Legrand, Mark Vincent, Giuseppe Giaccone, and Jan Van Meerbeeck

ISSN : 0732-183X **Impact Factor:** 11.81

Journal: Journal of clinical oncology (2006)

Abstract

Purpose: For malignant pleural mesothelioma (MPM) patients with a poor prognosis, maintaining health- related quality of life (HRQOL) is important. This article compares the impact on HRQOL of first-line treatment with cisplatin versus raltitrexed and cisplatin.

Patients and Method: Patients with histologically-proven unresectable MPM, not pretreated with chemotherapy were randomly assigned to receive cisplatin 80 mg/m2 intravenously on day 1, with or without preceding infusion of raltitrexed 3 mg/m2. HRQOL was assessed with the European Organisation for Research and Treatment of Cancer Core Quality of Life Questionnaire C30 (EORTC QLQ-C30) and EORTC Lung Cancer Module (QLQ-LC13) tools. Assessments were conducted at baseline, immediately before every treatment cycle, at the end of treatment, and every six weeks for 12 months.

Results: Two hundred fifty patients were randomly assigned, 80% were male with a median age of 58 years, WHO performance status 0, 1, and 2, in 25%, 62%, and 13% of cases. The clinical results found raltitrexed and cisplatin to be superior to cisplatin with regard to overall survival (P.048). The global HRQOL scale was comparable at baseline

on both treatment arms (P.848); at no point was any significant difference apparent on this end point. Both treatments led to an improvement, over time, in dyspnoea. This effect is an important clinically meaningful reduction from baseline in the cisplatin/raltitrexed arm. However, the majority of scales of the EORTC QLQ-C30 or LC13 showed stabilization of HRQOL with few clinically significant differences between the treatment arms.
Conclusion: This study provides important information about the HRQOL of chemotherapy-treated MPM patients.

Keywords

International Publications Awards
Cairo University

الاسم : عبد الرحمن نبوي ذكري

المعهد القومى للاورام القسم : بيولوجيا الاورام

Immunomodulators, sFas and Fas-L as potential noninvasive predictors of IFN treatment in patients with HCV genotype-4

A. R. N. Zekri,1 H. A. Haleem,2 G. E. -D. Esmat,2 A. A. Bahnassy,3 H. M. A. El-Din,1
M. M. Hafez,1 A. F. Sharaby,2 H. Sharaf4 and M. S. E.-D. Zakaria2

ISSN : 1352-0504 **Impact Factor:** 2.54

Journal: Journal of Viral Hepatitis 98 (2006)

Abstract

. Recent studies have indicated that cytokines can be used as markers for disease progression in hepatitis C virus (HCV)-infected patients, therefore this study was conducted to determine the influence of pegylated IFN vs standard IFN on interleukin-2 receptor (IL-2R), IL-6R, IL-8, TNFR-I, TNFR-II, sFas, and sFas-L in Egyptian patients with chronic hepatitis C genotype 4, as no previous studies have been performed on this genotype. We also aim at estab- lishing a possible relationship between these cytokines and the response to INF to determine whether they can be used as noninvasive markers for the response to INF therapy and as monitors for the outcome of treatment. Thirty-eight patients with chronic HCV hepatitis were investigated for the serum levels of the previously mentioned cytokines in a randomized opened controlled trial (22 patients treated with pegylated IFN and 16 patients treated with standard IFN). Cytokine levels were measured by ELISA at 0, 1 and 12 months of IFN therapy. There was marked increase in the serum levels of IL-2R and IL-6R in nonresponders to pegylated interferon, IL-8, TNFR-I and II were significantly higher in nonresponders to standard interferon but were also high in responders of pegylated interferon. sFas and sFas-L showed high levels among responders to pegylated interferon but the standard interferon was again less

effective in this regard. Serum levels of TNFR-II, sFas and sFas-L have the potential to be used as serological markers for response to pegylated IFN therapy, and IL-8 is a pre- dictor for nonresponse. Moreover, TNFR-I and II have the potential to be used as markers of response to standard IFN treatment. The persistent correlation between sFas and TNFR-II may elaborate the possible role of pegylated IFN in the induction of apoptosis as a possible new mechanism of viral clearance during treatment with pegylated interferon treatment.

Keywords

HCV, genotype-4, IFN, sFas, Fas-L, TNFR.

International Publications Awards
Cairo University

الاسم : عبير احمد بهنسي

القسم : بيولوجيا الاورام المعهد القومى للاورام

Epstein–Barr viral infection in extranodal lymphoma of the head and neck: correlation with prognosis and response to treatment

A A Bahnassy, A-R N Zekri,1 N Asaad,2 S El-Houssini, H M Khalid,3 L M Sedky4 & N M Mokhtar

ISSN : 0309-0167 **Impact Factor:** 2.60

Journal: Histopathology 48 516-528 (2006)

Abstract

Aims: To determine the prevalence of Epstein–Barr virus (EBV) infection in primary extranodal lymphoma of the head and neck (PELHN) in immunocompetent patients. PELHN represents 16.18% of all lymph- oma diagnosed at the National Cancer Institute, Cairo. Although EBV infection is highly associated with lymphoma in immunocompromised patients, the situation in immunocompetent patients is still unclear.

Material and methods: The study included 50 PELHN (11 cases in the nose and paranasal sinuses, 11 in the nasopharynx, 13 in the tonsils, seven in the orophar- ynx and eight in the oral cavity), five reactive lymph nodes, 15 normal nasopharyngeal tissue and 25 throat washes of healthy subjects from Egypt. Cases and controls were assessed for the presence of EBV by polymerase chain reaction (PCR) and in situ hybridiza- tion techniques, the presence of 30 base pair deletion of the LMP-1 (del-LMP1) gene and for the expression of p53, Ki67, bcl-2 and Bax by immunohistochemistry. This was also correlated with the clinical outcome of patients.

Results: EBV was detected in 90% and 70% of the cases using EBER in situ hybridization and PCR, respec- tively. All cases of nasal type lymphoma were positive for EBV. del-LMP1 gene was detected in 24/35 of EBV+ cases (68.6%), whereas 11 cases had wild-type variant either alone or mixed with del-LMP1. There was a significant

difference in the frequency of del-LMP1 between lymphoma and normal tissues. Overexpres- sion of Ki67, p53 and bcl-2 was detected in 78.1%,62.5% and 20% of cases, whereas loss of Bax was detected in 18% of the cases. Multivariate analysis showed that only p53 overexpression, del-LMP1 vari- ant and advanced disease stage are independent prognostic factors.
Conclusion: EBV infection is frequent in PELHN in Egypt. Possible pathogenic mechanisms involve de- regulation of p53 and enhanced proliferation (as detected by high Ki67 index). The presence of del- LMP1 variants, p53 overexpression and advanced disease stage are poor prognostic factors associated with reduced survival and poor response to therapy.

Keywords

: bcl-2 and Bax, EBV, head and neck, Ki67, lymphoma, p53

International Publications Awards
Cairo University

الاسم : أ.د / مدحت محمد خفاجى

المعهد القومى للاورام القسم : طب الاورام

Ileocaecal Vs Ileal Neobladder After Radical Cystectomy in Patients with Bladder Cancer: A Comparative Study

MEDHAT KHAFAGY, FOUAD ABDEL SHAHEED AND TAREK ABDEL MONEIM

ISSN : 1464-4096 **Impact Factor:** 2.247

Journal: BJU INTERNATIONAL (2006)

Abstract

OBJECTIVE
To compare an ileocaecal orthotopic bladder, (which has been the standard procedure in Egypt for >30 years) with the ileal neobladder, as there is no ideal continent orthotopic bladder replacement for patients after cystectomy for bladder cancer.
PATIENTS AND METHODS
Between June 1999 and December 2001, 60 patients with invasive bladder cancer were randomized into two groups. Group A comprised 29 patients who had radical cystectomy and reconstruction with an ileal neobladder (median age 50 years, 27 men and two women) and group B included 31 who had an ileocaecal bladder substitution after radical cystectomy (median age 51 years, 28 men and three women).
RESULTS
The complication rate after surgery in group A was 17%, with two deaths, one from acute myocardial infarction and the other from haematemesis. In group B, the complication
the patients in group A but in none in group B
($P < 0.05$). The pelvicalyceal systems were preserved in 85% of patients in group A and 93% in group B during the 2-year follow-up. The mean (SD) renal cortical thickness was less in group A than in group B, at 1.8 (0.5) and
1.9 (0.2) cm, respectively. Although the cystometric capacity was greater and the basal pressure less in group A than B, these were not reflected in the degree of diurnal and

nocturnal continence or back pressure on the renal units.
CONCLUSION
Continence in both pouches was similar but the renal units were preserved better in the ileocaecal than in the ileal neobladder. Residual urine volume was greater in the ileal neobladder, with its potential complications of infection and stone formation, and acidosis was more evident.

Keywords

Urinary Diversion; Cystectomy; Urinary Reservoirs; Ileocaecal; Continence; Ileal Neobladder.

International Publications Awards
Cairo University

الاسم : أ.د / هدير أحمد المحلاوى

المعهد القومى للاورام القسم : باثولوجيا الاورام

Evaluation of Pan-Fungal PCR Assay and Aspergillus Antigen Detection in The Diagnosis of Invasive Fungal Infections in High Risk Paediatric Cancer Patients

Hadir A. El-Mahallawy, Heba H. Shaker, *Hala Ali Helmy, Tarek Mostafa, **Abdel Razak Abo-Sedah

ISSN : 1369-3786 **Impact Factor:** 1.422

Journal: Medical Mycology 44 733-739 (2006)

Abstract

Background and purpose: Profound and prolonged neutropenia following chemotherapy is a major risk factor for systemic fungal infection. As the early diagnosis of invasive fungal infection (IFI) is difficult, these infections are still associated with high morbidity and mortality. Recently, Pan-fungal polymerase chain reaction (PCR) has been a promising aid in rapid, early diagnosis of IFI. During the past few years, increasing numbers of suspected IFIs are encountered at our institution in patients with prolonged neutropenia after intensified immunosuppressive hemotherapy. The aim of this study was to investigate the diagnostic utility of both the aspergillus galactomannan (GM) antigen and the panfungal PCR assay in the diagnosis of IFI in high risk febrile neutropenic paediatric cancer patients. Patients and methods: During one year period, 91 febrile neutropenic (FN) paediatric cases at high risk for developing IFI while receiving chemotherapy were investigated at National Cancer Institute, Egypt. These patients were subjected to clinical evaluation, chest CT scan, conventional blood cultures for bacterial and fungal pathogens, aspergillus GM antigen detection and PCR assay utilizing pan-fungal primers. Results: Of the 91 FN episodes, 15 were proven IFI; whereas 27 cases were either probable (n= 13) or possible IFI (n= 14), and 49 were unlikely to be IFI episodes. Based on positive results for proven/probable IFI and compared to culture results, Pan-fungal PCR showed sensitivity, specificity, positive and negative predictive values of 75%, 92%, 84% and 87%;

respectively. Aspergillus antigen test showed a sensitivity of 79%, specificity of 61%, positive and negative predictive values of 54% and 83%; respectively. A negative PCR in the proven and probable cases was closely related to previous antifungal therapy for a prior history of IFI.
Conclusions: In patients at high risk for IFI, the results of PCR assay correlated well with the diagnosis of IFI. The PCR test is more specific than the GM test for screening high risk group cancer patients in a hospital laboratory. The specificity of GM test is not sufficient and can be improved by PCR. The PCR assay seems more promising than the GM test for objectively defining IFI. The main value of the simultaneous use of these tests is to confirm the diagnosis. Therefore, when positive, these tests could provide an alternative to invasive investigations such as lung biopsy

Keywords

Invasive fungal infection IFI; Haemato-oncology patients; Polymerase ahain reaction PCR; Galactomannan GM; Aspergillus antigen.

Faculty of Arts

International Publications Awards
Cairo University

الاسم : أ.م / داليا سعد الدين محمد الشيال

كلية الاداب القسم : اللغة الانجليزية وادابها

The Athenian Sun in an African [American] Sky: Rita Dove's Grecian Gift

Dalia El-Shayal

ISSN : **Impact Factor:** 0

Journal: African - studies / Amerika studien 131 361-377 (2006)

Abstract

There remains a pressing question: what does the persistent use of Greek dramatic forms offer to modern theater? In fact, modern adaptations provide significant responses to Greek drama from a variety of perspectives. The use of dance, music, ritual, and poetry on modern stage not only overlaps with Greek tragedy, but offers an opportunity to bring to life those aspects of ancient drama to the tradition of modern theater. The contemporary Indian director Suresh Awasthi says about using Indian theater techniques to perform his play adapted from Antigone, "The very claim of authority, and the attempt for its realization in doing classics, foreign or our own, is a self-defeating objective. It negates the very purpose of doing a classic, which by its nature lends [itself] to different kinds of interpretation and approaches in accordance with contemporary tastes and values of theatre practice" (118). On the other hand, Jean Pierre Vernant argues that Greek tragedy engages in a continuous dialogue with an imagined heroic past, and that contemporary playwrights turn to Greek tragic plots to reflect on the relation between twentieth century reality and an irrecoverable past, on a failed aspiration to civilization (17). In her play, Rita Dove, constructs a penetrating view of the human condition "through the prism of [her] own localized experience (Early 271). The "enlarged humanity" learned from the tragedies is expressed in a dark commentary on slavery and its horrors. The confrontation between ancient text and modern adaptation sparks the imagination of readers/ viewers and invites them to make these texts their own. Yet there are many requirements for the success of a story retold or revisited. The new tragedy must ask questions of its audience,

must show conflict, and must connect with issues vital to its contemporary readers/audience. It is not enough to simply place a Greek narrative in an African American setting. Given the sheer historical and cultural weight, we must not lose sight of the fact that drama, as an art form, is created and executed within a specific physical environment. Rita Dove fills this environment with a multitude of new interpretations while adhering to the spirit of Greek tragedy. In her play, she follows the archetypal pattern but not the storyline of Sophocles' Oedipus the King. Straight from the prologue, Dove recreates the texture of Greek drama by introducing the origins of a curse and then the story unfolds until the final three scenes weave "the competing threads of the story to its compelling conclusion" (Keene 373).

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / سلمى عادل مبارك

كلية الاداب القسم : اللغة الفرنسية وادابها

Représentations Diversifiées du Quotidien Urbain Dans le Récit Littéraire et Filmique, Espèces d'Espaces de Georges Perec, Intervention Divine d'Elia Suleiman », Dans Dialogues Et Cultures, Numéro 51, Bruxelles, 2006

ISSN : **Impact Factor:** 0

Journal: Dialogues et Cultures 37-41 (2006)

Abstract

Espèces d'Espaces de Georges Perec et Intervention Divine du cinéaste Elia Suleiman sont deux œuvres appartenant à deux cultures différentes et à deux genres différents : l'essai littéraire et le film de fiction. Malgré la différence fondamentale des deux oeuvres, nombre de questions semblent les rapprocher au niveau de la représentation du quotidien et de l'effet esthétique que cette représentation suscite dans l'expérience du lecteur. La modernité de l'écriture aussi bien littéraire que cinématographique et la représentation d'un espace où le quotidien devient une question problématique sont autant de chemins qui mènent à divers champs de rencontre. G. Perec élit l'aspect « évident » du quotidien urbain pour en faire une lecture critique, il dirige le lecteur vers une lucidité du regard et de l'esprit en déniant le parti pris de certitude confiante inclus dans toute conception de l'évidence. Le film d'E. Suleiman scrute un vécu urbain inscrit dans un conflit politique, situation qui problématise la «banalité» du quotidien et brise son «automatisme ».

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / غراء حسين مهنا

كلية الاداب القسم : اللغة الفرنسية وادابها

Quelques Réflexions Sur La Littérature Maghrébine D'expression Française
Le Rapport De L'écrivain Avec Sa Langue Et Sa Culture.

Gharraa Mehanna

ISSN : **Impact Factor:** 0

Journal: Dialogues et Cultures 28-32 (2006)

Abstract

La naissance autour des années 45-50 d'une littérature maghrébine d'expression française a suscité des réactions très vives. Parmi les accusations adressées à ces écrivains, avoir choisi l'édition française de manière générale, reçu des prix étrangers et surtout abandonné l'arabe pour le français. La légitimité de cette littérature est remise en question. Depuis ses débuts et encore de nos jours, cette littérature ne cesse d'être une littérature errante, partagée entre deux espaces, deux imaginaires, deux langues, deux cultures, et deux modes de vie. L'immigration réelle ou virtuelle est un thème privilégié de cette littérature en exil centré sur le discours de l'identité/ altérité. Cette littérature comporte les paradoxes et les tensions vécus par une société, elle est le reflet de la situation inconfortable de l'écrivain maghrébin déchiré. Ces écrivains sont placés dans un espace identitaire de « l'entre-deux » car ils vivent hors du Maghreb, tandis que leurs œuvres traitent des sujets spécifiquement maghrébins, ou parce que le français est une langue d'adoption et non une langue maternelle, ou bien encore parce que de nationalité française, ils sont d'origine maghrébine (le cas des Beurs). Pourquoi le recours au français fait tant de problèmes surtout que dans l'Histoire littéraire, plusieurs écrivains ont choisi d'écrire dans une langue étrangère sans susciter autant de remous ? Le phénomène de l'expression dans une langue qui n'est pas la langue maternelle de l'écrivain est loin d'être exceptionnelle car beaucoup d'écrivains écrivent dans une langue étrangère : Oscar Wilde, Bernard Shaw, des irlandais qui ont choisi l'anglais à la plus dure époque de la domination britannique.

Beckett, Adamov, Ionesco, Kafka, Apollinaire, et dans le monde arabe : Andrée Chedid, Amin Maalouf, Albert Cossery et beaucoup d'autres n'utilisent pas leur langue maternelle. Pourquoi donc refuser à Dib, Ben Jelloun, Chraibi, Khatibi, et aux autres Maghrébins de choisir leur langue d'expression ? Car répond-on les deux langues n'ont pas la même conception chez les Maghrébins, et chacune porte en elle un univers différent : La langue arabe est celle des origines, des ancêtres, de la religion, de la tradition, de tout un passé perdu. La langue française est celle de l'ancien colonisateur, mais aussi de la liberté individuelle et de la laicité

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / غراء حسين مهنا

كلية الاداب القسم : اللغة الفرنسية وادابها

La Traduction Comme Conscience Linguistique et Culturelle

Gharraa Mehanna

ISSN : **Impact Factor:** 0

Journal: Dialogues et Cultures 75-81 (2006)

Abstract

Le langage, comme l'habillement, a toujours été considéré comme un signe distinctif d'une culture, et chaque groupe culturel est suffisamment individualisé pour que sa langue reflète sa différence. Toute traduction essaye d'abolir, mais en même temps de maintenir l'altérité et la diversité des langues et des cultures. Par la traduction le JE fait connaissance avec l'Autre et découvre sa culture. Traduire, c'est «rapporter» ce qui est étranger à ce qui nous est propre. Traduire c'est se documenter, c'est faire comprendre une autre culture. Traduire ce n'est plus consulter uniquement les dictionnaires, mais aussi faire des recherches. A travers la traduction, on transmet une image de la culture, une idée d'un pays et d'une civilisation. Nous allons donc dans cette étude présenter le problème de la transposition du contexte culturel du texte original à un texte culturel différent par le truchement de la traduction. Il est aussi important de soulever les problèmes que pose l'interaction des deux systèmes de langues et considérer les interférences dues à l'intervention de la langue maternelle dans la performance des locuteurs ou apprenants, et ceci sur deux étapes: -La 1ère en étudiant certains exemples de traductions littéraires où le traducteur néglige son rôle d'ethnographe et oublie de reproduire les dimensions historiques, sociales, et culturelles inhérentes au texte qu'on traduit. -Dans une 2ème étape, nous allons présenter une expérience personnelle qui s'étend sur plus de quinze ans avec les étudiants du diplôme de traduction à l'université du Caire (deux ans après la licence). Notre but est de montrer que les erreurs commises par ces étudiants en parlant ou en écrivant le français, et bien sûr en le traduisant, sont dues à l'influence de l'arabe, leur langue maternelle, et surtout aux interférences culturelles. Les formes et les structures

linguistiques sont souvent associées à des valeurs et des significations étroitement liées aux représentations socio-culturelles de ces étudiants. A partir d'un recensement de quelques erreurs commises, nous avons pu mettre le doigt sur les difficultés qui se présentent et proposer quelques solutions pour résoudre certaines, en relation avec le transfert culture!.

Keywords

Faculty of Veterinary Medicine

International Publications Awards
Cairo University

الاسم : د / أحمد سمير محمد شحاته

كلية الطب البيطرى القسم : الميكروبيولوجيا

Retrospective Serosurvey of Leptospirosis Among Patients With Acute Febrile Illness And Hepatitis in Egypt.

Tharwat F. Ismail, Momtaz O. Wasfy, Bassem Abdul-Rahman, Clinton K. Murray, Duane R. Hospenthal, Moustafa Abdel-Fadeel, Mohamed Abdel-Maksoud, Ahmed Samir, Mahmoud E. Hatem, John Klena, Guillermo Pimentel, Nasr El-Sayed And Rana Hajjeh

ISSN : 0002-9637 **Impact Factor:** 2.482

Journal: American J. Trop. Med. Hyg. 75 1085–1089 (2006)

Abstract

The epidemiologic status of leptospirosis in Egypt has not been well defined because of difficulties in disease diagnosis. A retrospective study was conducted to detect leptospiral antibodies among undiagnosed acute febrile illness (AFI) and hepatitis cases. Approximately 16% of both AFI (141/886) and acute hepatitis (63/392) cases showed seroreactivity to Leptospira IgM by ELISA and microscopic agglutination test (MAT). Canicola, Djasiman, Grippotyphosa, Pyrogenes, Icterohemorrhagiae, and Pomona were the most commonly reactive serovars among patients with AFI. Djasiman, Grippotyphosa and Icterohemorrhagiae were the most reactive among patients with acute hepatitis. This study represents the first systematic report of Leptospira associated with patients with AFI and hepatitis in Egypt. Physicians need to have increased awareness about the importance of leptospirosis in the differential diagnosis of AFI and acute hepatitis in Egypt. In addition, laboratory capacity should be developed at fever hospitals to diagnose leptospirosis.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / أيمن جودة مصطفى أبو زيد

القسم : الادوية كلية الطب البيطرى

Characterization of the relationship between serum and milk residue disposition of ceftriaxone in lactating ewes

A . GOUDAH*, H. C. SHIN**, J. H . SHIM*** and A. M. ABD-EL ATY*

ISSN : 0140-7783 **Impact Factor:** 1.294

Journal: JOURNAL OF VETERINARY PHARMACOLOGY AND THERAPEUTICS 29 307-312 (2006)

Abstract

The present study was planned to investigate the serum disposition kinetics and the pattern of ceftriaxone elimination in milk and urine of lactating ewes (n ¼ 6) following i.v. and i.m. administration. A crossover study was carried out in two phases separated by 15 days. Ceftriaxone was administered at a dosage of 10 mg/kg b.w. in all animals. Serum, milk and urine samples were collected between 0 and 72 h and a modified agar diffusion bioassay method was used to determine the percentage of protein binding and to measure serum, urine and milk concentrations of ceftriaxone. The drug was detected between 5 min and 48 h postdosing. Concentrations of 0.56 (10 h) and 0.52 (12 h), 0.22 (10 h) and 0.19 (12 h), and 2.18 (24 h) and 2.11 (48 h) lg/mL were measured in serum, milk and urine following i.v. and i.m. administration, respectively. Individual pharmacokinetic parameters were determined by fitting a two-compartment model to the serum and one-compartment open model to the milk concentration–time profiles. After i.v. dosing, the elimination rate constant and elimination half-life were 0.4 ± 0.05/h and 1.75 ± 0.02 h, respectively. The volume of distribution at steady state (Vdss) of 0.28 ± 0.15 L/ kg reflected limited extracellular distribution of the drug with total body clearance (Cltot) of 0.14 ± 0.10 L/h/kg. Following i.m. administration, the mean Tmax obs, Cmax obs, t1/2el and AUC values for serum data were: 0.75 h, 23.16 ± 2.94 lg/mL, 1.77 ± 0.24 h and 67.55 ± 6.51 lgÆh/mL, respectively. For milk the data were: 1.0 h, 8.15 ± 0.71 lg/mL, 2.2 ± 0.34 h and 26.6 ± 5.14 lgÆh/mL, respectively. The i.m. bioavailability was 83.6% and the binding percentage of ceftriaxone to serum

protein was 33%. Concentra- tions of ceftriaxone in milk produced by clinically normal mammary glands of ewes were consistently lower than in serum; the kinetic value AUCmilk/ AUCserum and Cmax milk/Cmax serum ratios was<0.4. These low values indicated poor distribution and penetration of ceftriaxone from the bloodstream to the mammary gland of lactating ewes following both routes.

Keywords

International Publications Awards
Cairo University

الاسم : أ.د / سهير يوسف صالح

كلية الطب البيطرى القسم : الفسيولوجيا

A Comparative Study on the Effects of Multi-EnzyMe Feed Additive "Kemzyme" on Some Fertility Parameters of Turkey Toms and Cockerels.

SOHAIR Y. SALEH*, K. A. ATTIAt *, SAFAA S. ADD EL-HAMID** & MAALY M. NASSAR*.

ISSN : 1470-2061 **Impact Factor:** 0.608

Journal: Avian Poult Biol Rev (2006)

Abstract

Recently, the use of enzymes in the feed of animals particularly poultry has become more common (Wang et al., 2005:Poult Sci. 84:875-81; Mathlouthi et al., 2003:Br Poult Sci.44:291-8). They have been shown to improve performance and nutrient digestibility. Looking forward, the present study aimed to investigate the effect of enzymes feed additives in relation to fertility. Twenty sexually mature turkey toms of an average age 36 :I: 2 weeks and weighing 4.5 :I: 0.25 kg body weight and twenty sexually mature cockerels weighing 2 :I: 0.2 kg body weight. Each group of birds was subdivided into 2 equal control and experimental groups. Birds of experimental groups were fed commercial breeder rations supplemented with multi-enzyme feed additive Kemzyme (Kemin AgriFoods Europe). at a dose equivalent to 100 mglkg ration. Control groups were fed on the same ration without additives. Water and rations were offered ad libitum for 6 successive weeks. At the end of experimental period, blood and serum samples were collected from birds of each group to evaluate blood levels of testosterone,

FSH, LH and total lipids. Semen and testicular tissue samples after slaughtering were collected from 10 birds of each group to evaluate some testicular parameters including seminal parameters (sperm count, viability %, dead and abnormal sperm %), some testicular enzyme markers (acid, alkaline phosphatase and lactate dehydrogenase) and

testicular content of testosterone, oestradiol 17~, total cholesterol and total lipids. Histopathological examination of testicular tissue was also done.

Data analysis revealed that in Kemzyme supplemented birds, sperm count, viability %, dead and abnormal sperm % were improved respectively by 25, 12 and 8 % of control values in turkey toms and by 16, 9, 6 and 5% of control values in cockerels. A significant elevation in the blood level of totallipids and testosterone with a significant decrease in FSH and LH level was also recorded in both types of birds supplemented with Kemzyme. Activities of testicular acid, alkaline phosphatase and LDH in Kemzyme supplemented birds were improved respectively by 21, 18 and 20% of control values in turkey toms and by 16, II and 14% of control values in cockerels. A significant elevation in total cholesterol and total lipids testicular content was recorded in birds fed in Kemzyme. A significant elevation in testicular content of testosterone and oestradiol 17~ were also recorded in birds fed in Kemzyme which was respectively 16 and 14% of control values in turkey toms and by 12 and 9% of control values in cockerels. Histophathological studies, revealed an activated spermatogenesis step series in birds supplemented with Kemzyme. Based on the obtained results, the improvement observed in the fertility of turkey toms and cockerels could be expected. And hence, further investigations to study the fertilizing capability will be recommended, to confirm the use ofkemzyme as a fertility enhancer.

Keywords

Turkey toms; Cockerels; Fertility; Kemzyme; Semen.

International Publications Awards
Cairo University

الاسم : أ.د / كمال على أحمد عطية

كلية الطب البيطرى القسم : الفسيولوجيا

Effect of Zinc Oxide and Vitamin C SupplemEntation on Some Fertility Parameters in Feed Restricted Turkey Toms.

K. A. ATTIA *, MAALY M. NASSAR* and SOHAIR Y. SALEH*

ISSN : 0043-9339 **Impact Factor:** 1.056

Journal: World Poultry SCI J. 1-16 (2006)

Abstract

In the present study, either Vitamin C or Zinc oxide supplementation in 15% restricted diet of turkey toms were used to monitor their effects on bird's fertility. So, forty turkey toms (16 weeks old) of an average weight 2.5 Kg were used and divided into 4 equal groups: Control group; birds fed on turkey breeder diet as 300 g / bird / day, Control restricted group; birds fed on 15 % restricted diet 255 g/ bird / day, Vitamin C supplemented group; birds fed on restricted diet supplemented with 1 g ascorbic acid / Kg diet and Zinc oxide supplemented group; birds fed on restricted diet supplemented with 100 mg zinc oxide powder / Kg diet.Each group was offered the corresponding ration and water adlibitum for 3 months. At 4 weeks intervals, semen and testicular tissue samples were collected from 3 birds of each group (after slaughtering) to evaluate some testicular parameters including enzyme markers (acid phosphatase, alkaline phosphatase and lactic dehydrogenase), testicular total lipids, cholesterol, testosterone and estradiol 17β. At the end of the experiment histopathological examination of testicles was also done. Results revealed that semen was firstly collected from control group 4 weeks prior to other groups (at 24 weeks of age), while it could be collected from other groups 4 weeks later. Semen evaluation showed a significant deterioration in sperm parameters (sperm count, viable sperm %, dead % and abnormal sperm %) of birds fed on either restricted or Vitamin C supplemented diet. Activities of enzyme markers were significantly decreased at 24 and 28 weeks of age in birds fed either restricted diet or Vitamin C supplemented birds, meanwhile, no significant changes were recorded in control nor Zinc oxide

supplemented birds. Total lipids and cholesterol were significantly increased in control restricted and Vitamin C supplemented birds. Testosterone and estradiol 17β were significantly decreased in restricted and Vitamin C supplemented birds. Histopathological examination revealed a significant distortion in spermatogenic cell series in birds fed on restricted or Vitamin C supplemented diet. Conclusively, supplementing Zinc oxide to restricted diet may be a saving practical tool for reducing cost of production without affecting fertility level (cost reduction=14.65%).

Keywords

Turkey toms; Fertility; Zinc oxide; Vitamin C; Feed restriction.

International Publications Awards
Cairo University

الاسم : أ.د / مسعد عبد الحميد هلالى

كلية الطب البيطرى القسم : الباثولوجيا

Haematological and biochemical changes in water buffalo calves (Bubalus bubalis) infected with Trypanosoma evansi.

Hilali, M., Abdel- Gawad, A., Nassar, A. and Abdel-Wahab, A.

ISSN : 0304-4017 **Impact Factor:** 1.686

Journal: VETERINARY PARASITOLOGY 139 237-243 (2006)

Abstract

Four water buffalo calves (Bubalus bubalis) were each inoculated intravenously with 106 T. evansi (camel isolate) and the fifth calf kept as non-infected control. The blood and sera of all calves were examined every 4 days during the first month post-inoculation (pi) and then once weekly until the end of the experiment (88 days pi). They were examined for hematological and biochemical changes, liver and kidney function tests. Hemoglobin concentration (Hb%), packed cell volume (PCV) and red blood cell count were significantly decreased. Total leucocytic count, lymphocytes and monocytes showed significant increase. Liver function tests revealed significant elevation in the activity lactate dehydrogenase enzyme (LDH), globulin, total biliruben and indirect biliruben while alkaline phosphatase enzyme showed significant decrease. Kidney function tests revealed significant decrease of both creatinine and urea.

Keywords

Trypanosoma evansi, water buffalo (Bubalus bubalis), biochemical changes, Egypt.

Faculty of Agriculture

International Publications Awards
Cairo University

الاسم : أ.د / جمال محمد كامل محيسن

كلية الزراعة القسم : الانتاج الحيوانى

In Vitro and in Vivo Viability of Vitrified and Vonvitridfied Embryos Derived from Egg and FSH Treatment in Rabbit Does

Gamal Mohamed Kamel Mehaisen*,*** Marı´a Pilar Viudes-de-Castro**,
Jose´ Salvador Vicente*, Raquel Lavara*

ISSN : 0093-691X **Impact Factor:** 2.161

Journal: THERIOGENOLOGY 65 1279-1291 (2006)

Abstract

This study aimed to evaluate the in vitro and in vivo viability of vitrified and non-vitrified embryos derived from eCG and FSH treatments in rabbit does. Ninety-six nulliparous does were randomly subjected to consecutive superovulation treatments with eCG (20 IU/kg body weight intramuscularly) i.m.), eCG group), FSH (3 x 0.6 mg/doe at 24 h intervals i.m., FSH group), or without super- ovulation treatment (control group). Does were artificially inseminated 3 days later and ovulation was induced immediately by hCG (75 IU/doe intravenous). Seven experimental groups were differen- tiated: first FSH and eCG treatment, second FSH and eCG treatment, eCG-interchanged group (does with previous FSH treatment), FSH-interchanged group (does with previous eCG treatments) and control group. Embryos were collected in vivo by laparoscopy 76–80 h post-insemination in the first and second recovery cycles and post mortem in the third recovery cycles. The ovulation rate was significantly higher in does treated with the first-FSH than in those treated with eCG or in control does (25.2 ± 2.0 versus 19.2 ± 1.4 to 11.0 ± 1.05 and 12.2 ± 1.2. first-FSH, first-eCG to second-eCG and control groups, respectively, P < 0.05). Significant differences were observed in the total recovery.

Keywords

International Publications Awards
Cairo University

الاسم : أ.م / رضوان صدقى فراج

كلية الزراعة القسم : الكيمياء الحيوية الزراعية

Influence of Crude Olive Leaf Juice on Rat Liver and Kidney Functions

Radwan S. Farag, * Ebtesam A. Mahmoud, * Amany M. Basuny** & Rehab F. M. Ali*

ISSN : 0950-5423 **Impact Factor:** 0.719

Journal: International Journal of Food Science and Technology 41 790-798 (2006)

Abstract

Crude juice of olive leaves (Kronakii cultivar) was obtained by hydraulic press. The level of polyphenlic compounds in the juice was 215 ppm. An aliquots of the concentrated olive leaf juice, represent 600, 1200 and 2400 ppm as polyphenols and butylated hydroxy toluene (BHT; 200 ppm) were administered to rats daily for 6 weeks by stomach tube. The liver (aspartate aminotransferase, alanine aminotransferase and alkaline phosphatase activities) and kidney (bilirubin, uric acid, creatinine and urea) function tests and serum contents (total lipids, total cholesterol and low and high-density lipoproteins) were measured to assess the safety limits of the polyphenolic compounds in the olive leaf juice. The data of the aforementioned measurements indicated that the administration of olive leaf juice did not cause any changes in liver and kidney functions. On the contrary, BHT at 200 ppm induced significant increases in the enzyme activities and the serum levels of total lipids, uric acid, urea and creatinine. Microscopical examinations of kidney and liver tissues of rats administered with the phenolic compounds of olive leaf juice had the histological character as
that of control rats whilst, the administration of BHT at 200 ppm altered the features of rat liver tissues and severely damaged the rat kidney tissues.

Keywords

Histopathological examination; Polyphenols; Rats.

International Publications Awards
Cairo University

الاسم : أ.د / رضوان صدقى فراج

كلية الزراعة القسم : الكيمياء الحيوية الزراعية

Improving The Quality of Fried Oils By Using Different Filter Aids

Radwan S Farag * and Ayman M El-Anany**

ISSN : 0022-5142 **Impact Factor:** 0.996

Journal: Journal of the Science of Food and Agriculture 86 2228-2240 (2006)

Abstract

The present study aimed to improve the quality of fried soybean, sunflower, pahn and cottonseed oils. Synthetk (Magnesol XL) and natural (diatomaceous earth and kaolin) filter aids were used at various levels (1, 2 and 4%) to adsorb the secondary oxidation products of the oil. The metal patterns (the cations Si, Mg, Ca, Fe, Na, K, Al, Cu, MD, Zn and the anions CO)z- , HCO) -, CI-, NO) -, NOz -, S04Z-) of Magnesol XL, diatomaceous earth and kaolin were determined. Some physical and chemical properties (refractive index, viscosity, colour, foam height, acid value, peroxide value, thiobarbituric acid value, iodine value, and conjugated diene and polymer contents) of non-fried, fried and fried-treated soybean, sunflower, pahn and cottonseed oils were determined.
The frying process. was performed at 180'C :I: 5'C for 12 h continuous heating. The fried oils were treated with the synthetic and natural filter aids at 105'C for 15 min. The results indicate that Magnesol XL, diatomaceous earth
and kaolin contained Si + Mg, Si + Ca and Si + Al, respectively, as the basic metals. Frying soybean, sunflower, pahn and cottonseed oils led to significant increases in refractive index, colour, foam height, viscosity, acid value,
peroxide value, TBA value, conjugated diene and polymer contents and decrease in iodine value. Treatment of fried oils with Magnesol XL, diatomaceous earth and kaolin at the 1,2 and 40/0 levels greatly improved the quality offried oils. These findings indicate the high efficiency of the filter aids used in the present study in adsorbing the products of oil degradation.

Keywords

Synthetic and natural filter aids; Fried oils; Physico-chemical Constants; Metals.

International Publications Awards
Cairo University

الاسم : أ.د / هانى عبد العزيز الشيمى

كلية الزراعة القسم : الكيمياء الحيوية الزراعية

Molecular Control of Gene Co-Suppression In Transgenic Soybean Via Particle Bombardment

Hany A. EI-Shemy**, Mutasim M Khalafalla ***, Kounosuke Fujita**** and Masao Ishimoto *****

ISSN : 1225-8687 **Impact Factor:** 1.548

Journal: Journal of Biochemistry and Molecular Biology 39 61-67 (2006)

Abstract

Molecular co-suppression phenomena are important to consider in transgene experiments. Embryogenic cells were obtained from immaque cotyledons and engineered with two different gene constructs (pHV and pHVS) through particle bombardment. Both constructs contain a gene conferring resistance to hygromycin (hpt) as a selective marker and a modified glycinin (11S globulin) gene (V3-1) as a target. sGFP(S65T) as a reporter gene was, however, inserted into the flanking region ofthe V3-1 gene (pHVS). Fluorescence microscopic screening after the selection ofhygromycin, identified clearly the expression of sGFP(S65T) in the transformed soybean embryos bombarded with the pHVS construct. Stf'ble integration of the transgenes was confirmed by polymerase chain reaction (PCR) and Southern blot analysis. Seeds of transgenic plants obtained from the pHV construct frequently lacked an accumulation of endogenous glycinin, which is encoded by homologous genes to the target gene V3-1. Most ofthe transgenic plants expressing sGFP(S65T) showed highly accumulation of glycinin. The expression of sGFP(S65T) and V3-1 inherits into the next generations. sGFP(S65T) as a reporter gene may be useful to increase the transformation efficiency of transgenic soybean with avoiding gene co-suppression.

Keywords

Gene co-suppression; Green fluorescence protein; Particle bombardment ; Transgenic soybean.

Faculty of Commerce

الاسم : أ.د / محمد عبد السلام البنان

كلية التجارة القسم : المحاسبة

A theory of the corporate decision to resist FASB standards: An organization theory perspective

Mohamed Elbannan and William McKinley

ISSN : 0361-3682 **Impact Factor:** 0

Journal: ACCOUNTING ORGANIZATIONS AND SOCIETY 31 601–622 (2006)

Abstract

This paper develops a theoretical framework that specifies the conditions under which corporations are likely to resist financial reporting standards proposed by the Financial Accounting Standards Board (FASB). Determinants of corporate resistance to FASB standards are identified at three levels of analysis: the standard, the corporation, and the corporation's industry. Propositions are formulated summarizing the effects of the determinants at these three levels, and guidelines are suggested for testing the propositions. Implications for the theory and the practice of accounting regulation are also discussed. The overall goal of the paper is to enhance our understanding of the drivers of corporate resistance to FASB standards, so that accounting regulators can manage the implementation of accounting standards more effectively.

Keywords

General Scientific Research Department
Information System Unit

Cairo University- University Administration Building,
Tharwat St., Giza, Egypt, Postal code: 12613.

Phone: +(202) 35704943 - 35676918 - 35675597
Fax: +(202) 37745324
Web site: www.gsrs.cu.edu.eg
www.cu.edu.eg
E-mail: info@gsrs.cu.edu.eg
resinfo@cu.edu.eg