

ENGLISH TITLES

CHEMISTRY

Separation of some metal ions in Nitric Acid- water-organic solvents media using cation-exchange resin

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Abstract

Cation- exchange characteristic of Ca^{2+} , Cd^{2+} , Zn^{2+} , Mg^{2+} , Co^{2+} , Ni^{2+} and Fe^{3+} ions have been investigated in nitric acid solutions eluting with different proportions of some organic solvent- water on commercial organic cation exchange resin (hydrogen form). The effect of variation in concentration of organic solvents (methanol, ethanol, n-propanol, acetone, dioxane, and glycerol) as well as the effect in acidity of the medium on the distribution coefficients (K_d) of the metal ions has also been studied by varying nitric acid concentration. The influence of the change of metal ion concentration on K_d values of the metal ions has been investigated. The possibilities of several useful separation have been discussed and examined based on the distribution data. The trace concentrations of different metal ions have been measured by batch techniques and with atomic absorption spectrophotometer. It was finally concluded that important quantitative separations of metal ions in binary mixtures included Zn^{2+} - Ca^{2+} , Ca^{2+} - Fe^{3+} , Mg^{2+} - Co^{2+} , Ni^{2+} - Fe^{3+} and Mg^{2+} - Fe^{3+} .

Key words: Separation, Distribution Coefficient, Chromatography, Ion-Exchange Resin.

ENGINEERING

Frequency band compression method for discrete signal

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Abstract

Due to ever-increasing bandwidth demands in future speech, images and multimedia services, the frequency band becomes more and more invaluable. In as a system $C(r, n)$ this paper a new technique for synthesizing circular arrays and compressed sequences $x(r)$ with causal linear, real excitation original $x_c(n)$.

The method is based on the derivation of system array in terms of the direct (W^{-n}) and inverse phase factor (W^r) phase factor ($C_o(r, n)$ First, we show that in order to be free of confusion original array been derived for conventional bandwidth which used at the cost of low efficiency of bandwidth usage and other degradation in transmitting performance. Then that achieves high efficiency of $C_c(r, n)$ we consider the compressed array bandwidth usage and as a result, mutual information or data have to exist at the compressed frequency bands.

is also proposed into which one row or $C(r, n)$ Decomposed computation of column is computed, followed by Toeplitz matrix operation. Simulation and numerical evaluation for arrays are carried out. Simulation results for discrete signal compression (N/2 – frequency components) and reconstruction (N - frequency components) show the effectiveness of the new method. The proposed compressor presents a good lossless compression, block diagrams and matrices. Figures interpretations of new method are shown.

Key words: Frequency band compression, discrete Fourier transforms and digital signal processor.

MATHEMATICS

Modules with every subgenerated module Hamsher

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Abstract

Faith [2] characterized rings whose all right modules are Hamsher modules and Hirrano [3] characterized rings whose all left modules are Hamsher modules .We characterize modules with every subgenerated module is a Hamsher module and some results by Faith [2] and Hirrano [3] have been extended.

Key words: Rings, Modules, Hamsher modules and max-rings.

Solution of a certain second order linear differential equation of Fuch's type using N-Fractional calculus

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Abstract

Banerji, P.K and Al-Hashemi , A.M.H introduced a solution of a certain type of homogeneous and non – homogenous second order linear differential equations of Fuch s type by using Nishimoto's fractional calculus operator [1, 2]. In this paper we have shown that a slight alteration in a second order linear differential equation of Fuch's type leads to a solution which, when compared with that obtained by Nashimoto [3], is significantly much simpler.

Key words: differential equation, N - fractional calculus

MEDICINE

Prognostic value of C-Reactive Protein and some haematological parameters in a cute myocardial infarction

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Abstract

Many cardiac markers, biochemical and hematological markers, are now under investigations for prognosis in acute myocardial infarction (AMI). One of the new biochemical factors is the C-reactive protein (CRP). The aim of this study is to evaluate the prognostic value of CRP and some hematological parameters in patients with AMI.

The study group included 47 patients with AMI, admitted at the ICU of Al Gamhouria Teaching Hospital for the period July 1st - Dec. 31st, 2003, having no associated diseases. In Addition to 94 (age and sex matched) normal subjects used as a reference group. The mean serum CRP was found to be high on admission of patients with AMI (29.4 ± 22.7 mg/L), but returns to normal level after one week (4.9 ± 2.2 mg/L). The mean serum CRP was significantly related to the short-term prognosis, being more than the total WBC count, whereas ESR, and platelets count did not show any significant relations with the short-term prognosis in AMI. This study concluded that, the more the elevated serum CRP and WBC count on admission is the worst the prognosis we get. This study strongly recommends serum CRP determination as a routine test for all patients with AMI.

Key words:C-reactive protein (CRP), acute myocardial infarction (AMI), Prognosis.

Treatment of Hodgkin's lymphoma ABVD: Experience of AL-Gamhoria Teaching Hospital, Aden, Yemen
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Abstract

The study focuses on clinical trials and institutional experiences to identify the best choice of treatment, individualized to the stage of the lymphoma and permitting minimization of late toxicity. This study was conducted to assess the feasibility and efficacy of a multimodality therapy consisting of ABVD chemotherapy or ABVD followed by involved-field RT in the treatment of HL in the Hematology-Oncology Department of Al-Gamhouria Teaching Hospital.

G-CSF was administered when needed in neutropenic patients.

Twenty five patients with Hodgkin's lymphoma (HL) were followed up and evaluated for the period 2004-2005. Sixty percent of them were males, with age range 5-70 years, and 40.0% were females with age range 15-50 years. At diagnosis, 64.0% of the patients presented with clinical stage III or IV disease, 28.0% with stage II and only 2 patients (8.0%) had stage I. Complete remission was achieved in 84.0% of patients. ABVD chemotherapy was significantly more effective treatment with high cure. Early diagnosis, on time management of the patients, and use of appropriate treatment modalities provide significant prevention of mortality in Hodgkin's lymphoma patients.

Key words: Hodgkin, Lymphoma, Chemotherapy , ABVD.

Causes of lower limb amputation in Jordan

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Abstract

The aim of this study was to assess the causes which led to amputation in general and, in particular, to the lower limb amputations. This prospective study was performed on 102 patients. All patients having amputations of upper or lower limbs were consulted at the orthotic - prosthetic clinic at the Royal Rehabilitation Center, King Hussein Medical Center, Royal Medical Services, between 1st January 2005 to 30th June 2005. The demographic data of the patients with amputation were analyzed, including age, sex and level of patients, and the cause of amputation.

During the study period, 102 patients were recorded. The age of the patients ranged from 4 to 75 years: 28 patients (27.5%) were above 50 years old and 74 patients (72.5%) were below 50. Out of 102 patients, 81 (79.4%) were males and

23 (22.5%) were females. The percentage of the upper limb amputations was 9.8%, while of the lower limb amputations was 90.2%.

The results of this study presented greater similarities with literature. These study results may help in planning the needs of materials and budgets for the amputee in Jordan

Key words: Lower Limb Amputation, causes, Jordan

**Initial experience of Laparoscopic Cholecystectomy In
AlGamhouria Teaching Hospital – Aden – Yemen
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Abstract

This is a prospective clinical study of the initial experience in laparoscopic cholecystectomy in AlGamhouria Teaching Hospital , Aden–Yemen , during the period 10.2.2001 through to 25.7.2002 .

The number of studied patients were 150 . Of these , 137 were females and 13 were males . Age mean was 50 +/- 12 years , with a range of 14 to 85 yrs .

The first 50 operations were performed by an expert , visitor laparoscopic surgeon and was assisted by two local, senior and experienced general surgeons who operated the next 100 operations

The main objective was to report the first series of laparoscopic cholecystectomies performed in Aden city, and to compare them with the literature review , and to establish a laparoscopic unit in the hospital for providing a new medical service to the local populations around .

Duration of surgery was 40 mins – 2.5 hrs ,with a mean of 80 +/- 30min .

Three cases were converted to open surgery ,with (2%) conversion rate.

Total postoperative morbidity was seen in 12 patients (8%). Of these , major postoperative complications only way developed in 2 patients (1.3%) , 1 with bile duct injury (0.6%) and the second with postoperative subhepatic

abscess .These complications were corrected by open surgery (1.3%) . The rest (6.7%) were minor postoperative complications .There were neither operative nor hospital mortality .The range of postoperative hospital stay was 1– 16 days, with a mean of 2 +/- 0.5 days , including the complicated cases .

We can conclude that laparoscopic surgery is safe , cosmetic and less invasive surgical procedure for patients with gallstones disease . More clinical work is recommended for assessment of laparoscopy as a future option for all patients with complicated and uncomplicated gallstone disease .Adequate training of local surgeons and establishment of qualified unit is an essential requirement for the hospital .

Key Words : Laparoscopy , Cholelithiasis , Cholecystectomy.

Retrospective study of endoscopic findings : 132 cases of esophageal and gastric cancer in Aden 2003-2006

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Abstract

This retrospective study involved a review of patients' records of 132 esophageal and gastric cancer examined at the "Endoscopic Center" in Aden during the period January 2003 to December 2006. Of these 132 cancer cases, 77 cases were males and 55 were females, a male to female ratio of 1.4:1. The mean age at diagnosis of male patients was 62.8 years, while that of female patients was 58.8 years. Esophageal cancer was noted in 83 (62.9%) of the cases, and were 43 males and 40 females, with male to female ratio of 1.1:1. Whereas gastric cancer 37.1%. They were 34 males and 15 females, with (was the second common in 49 male to female ratio of 2.3:1. The higher occurrence of esophageal and gastric cancer in both genders was in age group 60-79 years old. Location of esophageal cancer was higher (45.8%) in the lower third, followed in middle third (43.4%). The location of gastric cancers was higher 42.9% in pyloric antrum. Most of the patients 114 (86.4 %) were of rural origin. Patients from Yafee district - Lahj governorate - were accounted of 23.5%. We conclude that esophageal and gastric cancers are the most common cancer in patients (rural origin) referred for upper gastrointestinal endoscopy in southern governorates of Yemen.

Key words: Cancer, Esophagus, Stomach, Governorates, Yemen

Occurrence of noise induced hearing loss among industrial workers in Al-Mukalla city - Yemen

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Abstract

This cross sectional study, aimed to identify the occurrence of noise induced hearing loss (NIHL) among workers of electricity power station (E.P.S.) and fish canning factory(F.C.F.) and to attract attentions of the health policy makers to this big hidden health problem.

This study was carried out during the period from 11/2/2003 to 27/3/2003 in Al - Mukalla city (Yemen)..

In this study (150) workers were selected . A checklist was prepared for interview and examination using otoscopy and audiometry. Results showed that the prevalence of NIHL was 48.66% .The symptoms of NIHL increased gradually over a period of continuous exposure .

Key words: Deafness, Otoscopy Audiometry , Decible, Tinnitus, Cochlea.

Prevalence of eye injuries in children admitted in Al-Gamhoria Teaching Hospital, Aden, Yemen during the period 2000-2004

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Abstract

This study has been conducted to report the annual incidence of eye injuries among children admitted in Al-Gamhoria Teaching Hospital. Aden during the period 2000-2004.

To determine the types and the most common causes of eye injuries in children through which one can find a way to prevent the eye trauma as well as to minimize the complication.

Medical files were reviewed for all eye injuries during the year 2000-2004, and all eye injuries among children ≤ 16 years were selected and analyzed. 264 cases of total eye injuries admitted between 2000-2004: 163 were children (≤ 16 years old), 83% of whom were boys and 17% were girls. The highest injury was in (7-12 years) age group. The most common causes of injuries were stone, wood and sharp objects. Penetrating eye injuries 47, 2% and non-penetrating 52,8% 60,1% of the cases underwent eye surgical repair and eight eyes 4,1% removed. 53,4% of the total eye injury cases were referred from other governorates.

There is an urgent need for health education of the public; the encouraging their participation in the strategy of prevention of ocular trauma. The formation of an eye emergency centre with appropriate equipments and technology, continuation of training as well as improving doctors' skills to deal properly with traumatized eyes have become crucial necessities.

Key words: Eye injuries in children, Prevalence, Prevention, Aden.

PHYSICS

Effect of mass transport and diffusion-control on deposition process in chemical vapor deposition (CVD)

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Abstract

In mass controlled regime, it is clear that the diffusion processes play an important role in the deposition rates. Hence, this paper describes a theoretical and mass transport process of Silicon deposition from model for the growth rate deposition rate by consuming precursor, and Silane. This process can lower the contaminate the growing films via diffusion to the surface. The numerically compared with published calculated growth rate distribution was performed and experimental data. It had been shown that the growth rate was highly affected by the substrate temperature and more than the thermal kinetics of the reactions.

Keywords: CVD, transport phenomena, growth rate, diffusion control.

VETERINARY MEDICINE

Comparative study on fertility and viability of hydatid cysts of sheep and cattle in Lahej area Yemen

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Abstract

The fertility and viability rats of hydatid cysts from lungs and livers of sheep and cattle were investigated. Out of 125 cysts (76 from sheep and 49 from cattle) examined, 88(62 from sheep and 26 from cattle) were fertile (containing living protoscolices). The mean viability rats in the lung cysts of sheep and cattle were 83% and 65%, respectively whereas those in the liver cysts of the same hosts, in the same order, were 82.4% and 75% respectively. Out of the tow hosts investigated, sheep seems to be the most suitable host that contribute actively in the perpetuation of the life cycle of *Echinococcus granulosus* whereas cattle play a non significant role in this respect.

Key words: hydtid cysts, sheep, cattle Lahej.

ARABIC TITLES

AGRICULTURAL SCIENCES

Evaluation of some introduced bread wheat lines *Triticum aestivum* under coastal condition of Toban Delta in Lahej Governorate

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Abstract

Two field experiments were conducted at the experimental farm of Nasser's Faculty of Agricultural Sciences, University of Aden, during the two seasons 2000/2001 and 2001/2002 to evaluate some bread wheat lines *Triticum aestivum*, introduced from ACSAD and compared with cultivar Kalyansona as a control in some growing characters and yield.

Results of evaluation could be summarized as follows :-

The wheat lines were themselves showing significant differences in heading and maturity period compared with the cultivar kalyansona (control). The lines Acsad 1007, Acsad 969 and Acsad 973 were the earliest in heading (36 - 47 days) and maturity (71.3-83.3 days). The lines Acsad 999, Acsad 985 and Acsad 959 were the latest in heading (60.3 - 69.3 days) and maturity (92 - 113 days).

The lines Acsad 979 and Acsad 981 gave the highest number of tillers in the first season and produced a mean of 4.1 and 4.3 tillers / plant, respectively with significant differences compared with the control and most of the lines. The lines Acsad 959, Acsad 993 Acsad 999 exceeded the control in number of tillers / plant, in the second season, ranging between 2.3-2.7 tillers.

The lines Acsad 959 and Acsad 961 gave the highest mean values in grain / spike during the two seasons, ranging between 44.3 - 59.7 grains, with significant differences during the second season, compared with the control Kalyansona, which gave 41.7 and 28.3 grains during the two seasons, respectively. The lines Acsad 981, Acsad 969 and Acsad 989 gave the best mean values in grain/ spike ranging between 21.7-27.0 grains .

Most of the studied lines exceeded significantly the control Kalyansona in grains yield/ha. The lines Acsad 959 and Acsad 961 gave the highest grain yield during the two seasons ranging between 2.427 - 2.633 ton / ha . The line Acsad 969 gave the least grains yield ranging between 0.823-1.690 ton/ ha, compared with the control, which gave 1.407 and 0.873 ten / ha during the two seasons, respectively.

Key words : Evaluation , growth , yield , wheat lines. Delta Tuban.

Genera of Parasitic Nematodes on Papaya (*Carica papaya* L) and their role in inducing stem rot disease caused by *Macrophomina phaseolina*

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Abstract

A field survey was carried out, during Feb 1st to March 25th 2005, to determine genera of parasitic nematode existing in soil and roots of papaw plants. 45 Field were selected randomly from 15 regions at Abyan Delta- the Southern Coastal plain of Yemen., which are considered the most importance areas, cultivating papaya crop. In nearly half of the selected fields, papaw plants were intercropped with banana fields. Results showed that three nematode genera namely *Pratylenchus spp.*, *Radopholus similis* and *Helicotylenchus spp.* . Densities of the three nematodes were varied. *Pratylenchus spp.* was higher, followed by *Radopholus similes*, while *Helicotylenchus spp.* was less important and nearly not found when papaw is grown alone. Nematodes densities in roots of papaw plants were higher than that in soil, and higher in the intercropped fields with banana than in papaw plants grown lonely. A strong relationship was found between the *Pratylenchus spp.* and stem rot disease in papaw plants. As densities of *Pratylenchus spp.* increase in plant roots, percentage of stem rot diseases infection caused by *Macrophomina phaseolina*, increases.

Key words: *Pratylenchuc spp.*, *Radopholus similis*, *Carioca papaya*, *Macrophomina phaseolina*, Southern Coastal Plain of Yemen.

BIOLOGY

The properties of extracts of ramson onion and their effect on the growth of bacteria, compared with the effect of extracts of garlic

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Abstract

Among plants that occupy important situation in public medicine to treat a lot of diseases, comes ramson and garlic. Owing to their wide spread uses, especially onion, it was found necessary to put proofs to assure suitability and safe use of them as medicinal plants. It is for this purpose, studies were conducted to know the extent of effect of ramson and garlic on the growth of bacteria, like shigella and salmonella and (staphylococcus aureus). The result of the study showed that ramson has great effect on the growth of bacteria previously mentioned, compared with garlic . By diluting the extract of this kind of onion 1:2 ,1:8, the biological activity of this extract was reduced but its effect on bacteria growth remains. Garlic loses its effect after dilution. Ordinary onion and its effect on bacteria growth also was covered by the study, but no significant effect was seen.

On the other hand, I tackled the effect of antibiotics in my study e.g. Levomicitine (chloromphinicol) which is considered the first class antibiotics against shigella and salmonella. By comparing the diameter of growth circle around the extract and the antibiotic tables, the effect of the extract was big, exceeding that of the Tables .

By diluting the extract 1:2 and 1:8, the extract has lost part of its biological activity but its effect remains on the same level of the antibiotic tables in comparison with the size of the diameter of circles.

Key words: ramson ; garlic; extract ; biological activity

ENVIRONMENT

Survey study of plant vegetation in the lowlands and coastal area of Aden Governorate

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Abstract

This exclusive study of the lowland and coastal areas of Aden Governorate is considered important due to the geographical expansion of the Governorate area towards the north, northeast and north west, during the last decade of the twentieth century. In addition to the large scale development of population activities occurring in all parts of the governorate lowlands and coastal areas during this period, locating and recording plant species has become essential. This study has resulted in locating and recording of 169 plant species belonging to 133 genera from 64 families. Among the recorded species four species have been recorded for the first time in Aden flora after being reviewed.

key words: Plant vegetation, lowland, Coastal area, survey study.

Evaluation of the quality of drinking water of Amsurra Project in Alwadi'e, Abyan Governorate

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Abstract

The aim of this paper is to study the quality of the drinking water in Am-Surah, Abyan Governorate. Seven samples, during the period 1-15 September 2006 were collected for the physica-chemical analysis. The physical analysis includes the following results:

PH 7.03-7.27, Turbidity (NTU) 0.31-12, Electrical conductivity ($\mu\text{s}/\text{cm}$) 928-2190, Total dissolved solids (mg/L) 263.0-1311.

The results of the chemical analysis (mg/L) show Alkalinity 246-268 (mg/L), Chlorides 84-324, Nitrates 16.72-67.30, Sulfate 137.5-375, Bicarbonate 300-329, Fluoridates 0.64-1.17, Sodium 114-253, Potassium 6.80-9.87, Magnesium hardness (expressed as calcium carbonate) 84-310, Calcium hardness (expressed

as calcium carbonate) 174-258, and total hardness(expressed as calcium carbonate) 262-564

The study has shows that most of the examined samples particularly of Abass, Al Rowishan and Thabh wells are allocated within the acceptable ranges of the locally and internationally standards of good drinking water.

Key words: Drinking water, Am-Surah, Al Wadai, Abyan.

PHYSICS

Effect of shock waves on erosion of metal surface

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Abstract

Metal surfaces which are used as covers for keeping lubricants from leakage from moving parts of engines are damaged when some holes are caused . While cavitation might be one of the causes of this holes, however, the development of shocking waves resulting from the movement of lubricants and caused by movement of axes of revolution or bearings, and the impact of these waves on the surface of the metal cover leads to erosion of metal , and appearance of small crater that becomes deeper with the collision of the waves until they finally lead to appearance of holes on the surface of the metal cover . To study the impact of the shocking waves on the surface of the metal cover, a two-stage experiment was conducted; In the first stage, water was an effective agent, and, in the second stage, water viscosity was changed by adding used car engine oil. The impact of the shocking wave on the metal cover surface in the two cases: first, when the sample was static and second ; when the impact of the shocking wave on the surface of the moving sample has been studied. The results showed that the erosion of the metal surface increased by the increase of liquid viscosity , diameter of nozzle and period of effect of the shocking wave, as well as increase of speed of the sample.

Key words: Erosion, metal surface, nozzle , shocking wave.