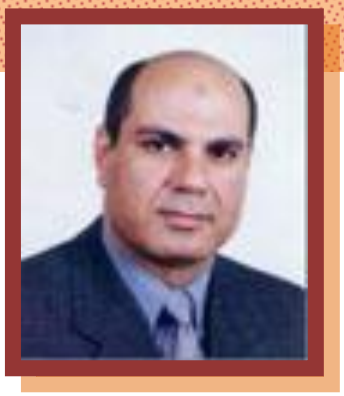
Kafrelsheikh University
Postgraduate Studies & Research Sector

Published Research Articles in International Reviewed Journals by Scientific Researchers from Kafrelsheikh University

6th edition
2012-2013



Dear faculty members

It is our pleasure to express our congratulations to the authors the papers published in the international Journals and I invite them to celebrate and receive the university prizes in the 6th annual university ceremony. Actually, we extend our hands to all researchers in the university and promise them that we will stand and support anyone who has the willing to conduct a useful and valuable research deals and contributes for solving the existing problems. Our university needs your efforts and contributions in order to satisfy the quality standards in education and research and occupy remarkable position among the world wide universities. Finally, I wish for all great success and more achievements to enhance the higher education in Egypt.

Prof. Dr. *Maged El-Kemary*

President, Kafrelsheikh University

Dear Colleagues

I am very pround of KafrelSheikh University distinguished researchers, who are able to innovate and perform well research proposals for international impacted scientific contributions. Kafrelsheikh University will be aspiring, remarkable and could be ranked among highly recognized Universities world wide by your achievement recognition. Congratulations of the reward of the University for their contribution and we promise all that our exertions will be focused to support and encourage you for further international scientific publications

Prof. Dr. El Sayed Mohamed Hegazy

Vice-President of Postgraduate Studies & Researches

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2	Temperature and Airflow Rate Effect on Artificial Ripening Process of Banana	**Said Elshahat Abdallah** ;M. A. Basiouny	**AMA-AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 43, No. 2, 2012**	**0.054**
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82	Ten years primary succession on a newly created landfill at a lagoon of the Mediterranean Sea (Lake Burullus RAMSAR site).	Mohamed A. El-Sheikh, Yassin M. Al-Sodany, **Ebrahem M. Eid**, Kamal H. Shaltout	**Flora 207 (2012) 459– 468**	**1.639**
83	**S**easonal courses of nutrients and heavy metals in water, sediment and aboveand below-ground Typha domingensis biomass in Lake Burullus (Egypt): Perspectives for phytoremediation	**Ebrahem M. Eid**, Kamal H. Shaltout, Mohamed A. El-Sheikh, Takashi Asaeda	**Flora 207 (2012) 783– 794**	**1.639**
84	Electrical conductivity of cobalt–titanium substituted SrCaM hexaferrites	**M.R. Eraky**	**Journal of Magnetism and Magnetic Materials 324 (2012) 1034–1039**	**1.780**
85	Energies, wavelengths, and transition probabilities for Ge-like Kr, Mo, Sn, and Xe ions	**O. Nagy**, Fatma El_Sayed	**Atomic Data and Nuclear Data Tables 98 (2012) 373–390**	**2.160**
86	Radioactivity of sand, groundwater and wild plants in northeast Sinai, Egypt	Khaled A. Ramadan, Mostafa K. Seddeek, Abdelkareem Nijim, **Taher Sharshar** and Hussein M. Badran	**Isotopes in Environmental and Health Studies Vol. 47, No. 4, Dec. 2011, 456–469**	**0.900**
87	Infrared, Raman, 1H NMR, thermal and positron annihilation lifetime studies of Pb(II), Sn(II), Sb(III), Bi(III)-barbital complexes	Moamen S. Refat, **T. Sharshar**	**Journal of Molecular Structure 1016 (2012) 140–146**	**1.634**
88	Synthesis and characterization of highly conductive charge-transfer complexes using positron annihilation spectroscopy	Abdel Majid A. Adam, Moamen S. Refat **T. Sharshar**, Z.K. Heiba	**Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 95 (2012) 458–477**	**2.098**
89	Synthesis, characterization, magnetic, thermal and electrochemical studies of oxidovanadium(IV) picolyl hydrazones as functional catechol oxidase models	**Amina A. El-Taras**, Ibrahim M. EL-Mehasse and Abd El-Motaleb M. Ramadan	**V.R. Chimie 15 (2012) 298- 310**	**1.803**
90	Palladium-Catalyzed Direct C–H Arylation of Thieno[3,4-b]pyrazines: Synthesis of Advanced Oligomeric and Polymeric Materials	Nabiha . Abdo, **Ashraf A. El-Shehawy**, Ahmed A. El-Barbary, and Jae-Suk Lee	***Eur. J. Org. Chem.* 2012, 5540–5551**	**3.329**
91	Nickel Corrosion Inhibition in Sulfuric Acid Electrochemical Studies, Morphologies, and Theoretical Approach	M.A.Amin, **H.Shokry,** and E.M.Mabrouk	**Corrosion Vol. 68, No.8**	**1.441**

92	Macrocyclic nickel(II) complexes: Synthesis, characterization, superoxide scavenging activity and DNA-binding	**Abd El-Motaleb M. Ramadan**	**Journal of Molecular Structure 1015 (2012) 56–66**	**1.634**
93	Syntheses and characterization of new tetraazamacrocyclic copper(II) complexes as a dual functional mimic enzyme (catalase and superoxide dismutase)	**ABD EL-MOTALEB M. RAMADAN**	**Journal of Coordination Chemistry Vol. 65, No. 8, 20 April 2012, 1417–1433**	**1.547**
94	New mononuclear copper(I) and copper(II) complexes containing N4 donors; crystal structure and catechol oxidase biomimetic catalytic activity	ABD EL-MOTALEB M. RAMADAN, MOHAMED M. IBRAHIM and IBRAHIM M. EL-MEHASSEB	**Journal of Coordination Chemistry Vol. 65, No. 13, 10 July 2012, 2256–2279**	**1.547**
95	Petrogenetic evolution of basaltic lavas from Balhaf–Bir Ali Plio-Quaternary volcanic field, Arabian Sea, Republic of Yemen	Mohamed T. S. Heikal & **El-Metwally M. Lebda** & Yuji Orihashi & Abdalmenam Habtoor	**Arab J Geosci Published online 14 November 2012**	**1.141**
96	Microsatellite analysis of Fasciola spp. in Egypt	Yasser Dar & **Said Amer** & Bertrand Courtioux & Gilles Dreyfuss	**Parasitol Res (2011) 109:1741–1744**	**2.149**
97	Identity and public health potential of Cryptosporidium spp. in water buffalo calves in Egypt	Said Amer, Shereif Zidan, Yaoyu Feng, Haileeyesus Adamu, Na Li, Lihua Xiao	**Veterinary Parasitology 191 (2013) 123– 127**	**2.579**
98	MOLECULAR IDENTIFICATION OF FASCIOLA SPP. (DIGENEA: FASCIOLIDAE) IN EGYPT	DAR Y., **AMER S.**, MERCIER A., COURTIOUX B. & DREYFUSS G	**Parasite, 2012, May Vol. 19,No.2,Pp.177-182, Published online in Medline**	**1.000**
99	Molecular identification of Fasciola spp. (Digenea: Platyhelminthes) in cattle from Vietnam.	Nguyen S, **Amer S,** Ichikawa M, Itagaki T, Fukuda Y, Nakai Y.	**Parasite. 2012 Feb;19(1):85-9.**	**1.000**
100	lectromagnetic Radiation Fields in Three-Layered Media With Rough Interfaces	Samira Tadros Bishay, **Osama M. Abo-Seida**, and Hanan Shehata Shoeib	**Ieee Transactions On Geoscience And Remote Sensing, VOL. 50, NO. 10, OCTOBER 2012**	**2.895**
101	Generalized thermodiffusion for an unbounded body with a spherical cavity subjected to periodic loading	**A. M. Zenkour**, D. S. Mashat and A. E. Abouelregal	**Journal of Mechanical Science and Technology 26 (3) (2012) 749~757**	**0.448**
102	Viscoelastic analysis of an exponentially graded sandwich plate†	**A. M. Zenkour**	**Journal of Mechanical Science and Technology 26 (3) (2012) 889~898**	**0.448**

103	Rotating Moderately Thick Annular Disks Via An Extension To Classical Theory	**A. M. Zenkour**	***Journal of Mechanics, Vol. 28, No. 2, June 2012***	**0.325**
104	Piezoelectric Behavior of an Inhomogeneous Hollow Cylinder with Thermal Gradient	**Ashraf M. Zenkour**	**Int J Thermophys (2012) 33:1288–1301**	**0.953**
105	Exact Relationships between Classical and Sinusoidal Theories for FGM Plates	**Ashraf M. Zenkour**	***Mechanics of Advanced Materials and Structures*, 19:551–567, 2012**	**0.926**
106	Hygrothermal effects on the bending of angle-ply composite plates using a sinusoidal theory	**Ashraf M. Zenkour**	**Composite Structures 94 (2012) 3685–3696**	**2.240**
107	Hygrothermal analysis of exponentially Graded rectangular Plants	**Ashraf M. Zenkour**	***Journal of Mechanics* of Materials and Strctures Vol 7, No.7, 2012**	**0.675**
108	Solution of (3 _ 1)-Dimensional Nonlinear Cubic Schrodinger Equation by Differential Transform Method	**Hassan A. Zedan,** and M. Ali Alghamdi	**Hindawi Publishing Corporation Mathematical Problems in Engineering Volume 2012, 14 pages**	**0.777**
109	The Application of the Homotopy Perturbation Method and the Homotopy Analysis Method to the Generalized Zakharov Equations	**Hassan A. Zedan,** and Eman El Adrous	**Hindawi Publishing Corporation Abstract and Applied Analysis Volume 2012, 19 pages**	**1.318**
110	The application of the Variational iteration method to the Davey-Stewartson equations	**Hassan A. Zedan,** W. Albarakati	**Archives Des Sciences, Vol 65, No. 12;Dec 2012**	**0.296**
FACULTY OF ARTS				
111	Ideological collocation and the recontexualization of Wahhabi-Saudi Islam post-9/11: a synergy of corpus linguistics and CDA	**Amir H. Y. Salama**	**Discourse & Society Vol. 22, No. 3, 315-342,2012**	**0.672**

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1

AMA-AGRICULTURAL MECHANIZATION IN ASIA , AFRICA AND LATIN AMERICA, Vol. 43, No. 1, 2012

IMPACT FACTOR=0.054

EFFECTIVENESS OF THE AERATION METHOD AND PILE SHAPE DURING COMPOSTING PROCESS

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ABSTRACT

This investigation studied the effectiveness of the aeration method and pile shape during the composting process. Six piles of about 6m^3 were formed under Egyptian climatic conditions from a mixture of rice straw and cow dung during the composting process. Three piles had the shape of a pyramidal frustum and three others had the semi-cylindrical one. Each geometrical shape of pile had three different methods of aeration; static pile, turned windrow and passive aeration. The results showed that the composting process was accomplished with the highest rate in the semi-cylindrical pile with the passive aeration method. The pyramidal frustum with the static pile showed the lowest values of composting parameters as compared to all the investigated treatments. During the mesophilic phase, the pile temperature declined to the ambient quicker in the semi-cylindrical pile with the passive aeration by 166.67% as compared to the pyramidal frustum with the static pile. During the thermophilic phase, the semi-cylindrical pile with the passive aeration achieved lower peak temperature by 19.37% as compared to the pyramidal frustum with the static pile. During the cooling down phase, the semi-cylindrical pile with the passive aeration hastened the composting period by 143.75% as compared to the pyramidal frustum with the static pile. The C/N ratio of the finished compost in the semi-cylindrical with the passive aeration was lower by 77.87% as compared to the pyramidal frustum with the static pile. The germination index was higher in the semi-cylindrical pile with the passive aeration by 30.81% as compared to the pyramidal frustum with the static pile. In general, the semi-cylindrical pile with the passive aeration achieved lower final moisture content and shortened the composting period by 109.38% as compared to the pyramidal frustum with the static pile.

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AMA-AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 43, No 2, 2012

IMPACT FACTOR=0.054

TEMPERATURE AND AIRFLOW RATE EFFECT ON ARTIFICIAL RIPENING PROCESS OF BANANA

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ABSTRACT

The research was conducted in one of commercial refrigerators for ripening bananas (Musa Sapientium), in Kafr Elsheikh Governorate, Egypt during the season of 2006/2007. The need was to investigate the behavior of bananas during the ripening process at various temperatures and airflow rates. Both temperature and airflow rate were controlled by air distribution and adjusted inside the ripening room before loading bananas. This enhanced air temperature uniformity in both the vertical and horizontal dimensions. Additionally, this assisted in determining the most important changes in some physical properties of bananas that occurred during the ripening process. The deviations in the ripening room temperatures about their mean values were less with the especially designed air distribution duct. It, also, enhanced the uniformity of air distribution inside the ripening room and increased the effectiveness by 458.62% at a ripening room temperature of 21ºC. The shortest periods of banana ripening (shelf life) were obtained at a ripening temperature of 21ºC and airflow rate of 0.3m^3/s.kg. At an airflow rate of 0.3m^3/s.kg, the shelf life of bananas was increased from 12 to 25 days by decreasing ripening room temperature from 21 to 15ºC. The optimum conditions for banana ripening were obtained at an airflow rate of 0.3m^3/s.kg at all the ripening room temperatures under study. Generally, at constant airflow rate, the ripening room temperature of 21ºC could be used to achieve a high rate of banana ripening. On the other hand, a ripening room temperature of 18 and 15ºC could be used to achieve moderate and slow rates of banana ripening, respectively. Therefore, shelf life of bananas could be considered a function of storage period for marketing or processing. Some physical properties such as ripening stage, mass loss percentage, pulp-to-peel ratio, pulp texture, pulp moisture content and pulp temperature were noticeably changed as the ripening process of banana fruits proceeded.

3

AMA-AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 43, No. 3, 2012

IMPACT FACTOR=0.054

EVALUATING THE PERFORMANCE OF A BULK-MILK COOLER ON A DAIRY FARM

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ABSTRACT

The present study was carried out at the Animal Production Research Station, Sakha Village, Kafr Elsheikh Governorate, Egypt during the summer 2006 using a bulk-milk cooler. The principal objective was to calibrate the bulk-milk cooler at different milk loading capacities (collection every other day) and to assess the applicability of those capacities in accordance with the cooling capacity standards of bulk coolers. At the first milk loading for every day collection (50% of cooler capacity), milk temperature reached 277.3K within two hours from starting the storage time. The first loading for every day milk collection was successfully accorded with the cooling capacity standards. Conversely, the specifications of the bulk-milk cooler, at the second milk loading for every day collection, were not achieved and not in accordance with the cooling capacity standards. Milk temperature reached 286.8K at the end of the second loading when it must not exceed 283K. On the other hand, at the first loading for every other day milk collection experiments, milk temperature reached 277.4K after only 0.5h from the beginning of storage time. This was essentially due to the small capacity of milk (25% from cooler capacity). At the end of the second milk loading, for every other day milk collection, milk temperature was 281.9K and was accorded with the cooling capacity standards. For every day milk collection, cooling capacity of the bulk cooler was increased during the second loading (100% of cooler capacity) by 17.51% over that of the first one (50% of cooler capacity). Conversely, for every other day milk collection, cooling capacity was reduced during the second loading (50% of cooler capacity) by 14.77% over that of the first one (25% of cooler capacity). For determining the convenient capacity of the bulk-milk cooler for every day milk collection, the bulk milk cooler capacity should not exceed 80.38% (1.286m^3) of milk to maintain milk temperature at the recommended level for safe storage and marketing.

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AGRICULTURAL MECHANIZATION IN ASIA AFRICA AND LATIN AMERICA, Vol. 44, No. 1, 2013

IMPACT FACTOR=0.054

MODIFICATION AND PERFORMANCE CHARACTERISTICS OF A NEW PROTOTYPE FOR CLEANING SEED COTTON

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ABSTRACT

The present investigation was conducted in October, 2007 at the Rice Mechanization Center, Meet El-Deeba, Kafr El-Sheikh governorate. The modified prototype was fabricated at a small workshop in Kafr El-Sheikh city. The experimental results revealed that the seed cotton extractor (prototype) performance after modification was better than that before. Seed cotton waste was minimized by 14% and 32.58% for the prototype before and after modification, respectively. Also, cotton trash content was reduced by 8.87 and 35.75% for the prototype before and after modification, respectively. Its productivity was increased by 92.19% and 109.15% before and after modification, respectively. Also, the prototype productivity was increased by 28.24% when the feed rate was increased from 0.60 to 0.75Mg/h. At all the investigated feed rates, the modified prototype had higher values of cleaning efficiency. The increment in cleaning efficiency was of 21.22% by raising feed rate from 0.60 to 0.75Mg/h. The prototype energy requirements were minimized by 42.59 and 47.02% before and after modification, respectively. Cotton moisture content was reduced by 31.80% when the drying air temperature increased by 11.63%. Total cost requirements for the modified prototype were slightly smaller by 0.66%. Whereas, criterion function cost was smaller for the modified prototype by 16.77% than before modification as seed cotton losses were effectively minimized after modification. The characteristics of cotton fiber quality were highly enhanced and strongly influenced by the investigated variables for the modified prototype than before modification.

AFRICAN JOURNAL OF MICROBIOLOGY RESEARCH
,VOL. 6(35), PP. 6423-6431, 13 SEPTEMBER, 2012

IMPACT FACTOR=0.539

USE OF SPIRULINA (ARTHROSPIRA FUSIFORMIS) FOR PROMOTING GROWTH OF NILE TILAPIA FINGERLINGS

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ABSTRACT

In the present investigation, spirulina (Arthrospira fusiformis) was used as feed additives on growth performance in Nile Tilapia (Oreochromis niloticus). A. fusiform is was isolated from various rook pool of a rocky shore, Alexandria and Kafr El-Sheikh Governorates, Egypt. The results showed that the optimum medium, pH and temperature for the growth protein and chlorophyll-a content of A. fusiformis were Zarrouk medium, 9 and 35°C, respectively. The dry weight of A. fusiformis was 1.8 g/L and protein and chlorophyll-a contents were 64.3% and 13.2 mg/g at 35°C and pH 9, respectively. A. fusiformis was used as feed additives on growth performance in Nile Tilapia for 12 weeks. Three (3) diets were formulated to be isocaloric and is nitrogenous containing (about 4616 kcal/kg DM) and (about 31.49% CP) for Tilapia fingerlings: one, a control diet without supplements; second, a supplement with 1% A. fusiformis and third, a supplement with 1% Spirulina pacifica. Results indicated that fish fed on 1% spirulina exhibited greater growth than those fed with the control diet. Fish fed with the control diet had the lowest protein content. Carcass lipid recorded the highest value in the control treatment, which was statistically different from the supplemented treatments. Ash content increased significantly with the increase spirulina levels as compared with the control treatments. Fish fed with spirulina-containing exhibited higher glucose, lipid and protein values in fish serum. Also, fish fed with spirulina-supplementation significantly decreased aspartate aminotransferase (AST) and alanine aminotransferase (ALT) values compared with control suggesting that spirulina is an appropriate growth-stimulating additive in Nile Tilapia culture.

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JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH, PART A (2012) 47, 1909–1918.

IMPACT FACTOR=1.190

PROTECTIVE AND CURATIVE EFFECTS OF FOLIAR-SPRAY FENTON SOLUTIONS AGAINST CUCUMBER (CUCUMIS SATIVUS, L.) POWDERY MILDEW

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ABSTRACT

Various Fenton solutions have been developed for advanced oxidation processes in wastewater treatment. In this study, conventional Fenton solutions such as hydrogen peroxide (HOOH) + Fe2+ (Mix 1) or HOOH + Fe3+ (Mix 2), and a new type of solution, HOOH +Fe3++oxalic acid (Mix 3), were used as foliar sprays against powdery mildew on cucumber caused by *Sphaerotheca fuliginea*. Three Fenton solutions, plus a fungicide, fenarimol, were used to cure and/or protect the plant from powdery mildew under greenhouse conditions. Determination of the ·OH photoformation rate of these Fenton solutions revealed that Mix 3 had a photoformation rate 3.6 - 4.3 times higher than those of Mix 1 and 2. Application of fenarimol and Mix 3 to each plant once a week for three weeks resulted in high curative effects for already–diseased plants. Double spraying with fenarimol and theMix 3 solutions 1–7 days before *S. fuliginea* inoculation resulted in the protective effects continuing for up to 20 days after spraying. When the disease reemerged at 20 days post inoculation, one reapplication of the spray suppressed the disease for another 7 days. Overall, fenarimol andMix 3 were most effective for both the protection and suppression of the disease. These results implied that Mix 3 had fungicidal effects similar to fenarimol; therefore, the use of a Fenton solution such as Mix 3 may offer new possibilities for disease control.

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POULTRY SCIENCE 91:2282-2287,2012

IMPACT FACTOR=1.728

HIGH AMBIENT TEMPERATURE INFLUENCES EGGSHELL QUALITY AND CALBINDIN-D28K LOCALIZATION OF EGGSHELL GLAND AND ALL INTESTINAL SEGMENTS OF LAYING HENS

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ABSTRACT

Eggshell quality deterioration associated with heat stress is a well-known phenomenon. The involvement of the 28-kDa calcium-binding protein (calbindin, CaBP-D28k) localization in this failure is not clearly understood. To test a possible direct effect of ambient temperature on calbindin-D28k localization, 40 White Leghorn laying hens were housed in individual cages and exposed to high ambient temperature (30–33°C) and thermo neutral temperature (20–22°C) which served as a control. Eggshell quality characteristics and immunohistochemical localization of all intestinal segments and eggshell gland calbindin-D28k were performed under both environmental conditions. As expected, egg weight, eggshell thickness, eggshell percentage, and eggshell density were negatively affected by high ambient temperature ($P \leq 0.01$). Immunohistochemistry showed that calbindin was localized in the intestinal enterocyte cytoplasm and glandular cell cytoplasm under thermoneutral conditions. However, the calbindin intensity was prominently decreased in ileum, cecum, colon, and eggshell gland under heat stress conditions. Therefore, it could be concluded that calbindin-D28k localization in intestinal segments and eggshell gland is negatively affected by high ambient temperature which might be related to the deterioration of eggshell quality characteristics under heat stress conditions.

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BRITISH POULTRY SCIENCE VOL.53, NUMBER 5 ,PP. 708-714,2012

IMPACT FACTOR=1.005

VITAMIN E AND ORGANIC SELENIUM ENHANCES THE ANTIOXIDATIVE STATUS AND QUALITY OF CHICKEN COCOKEREL SEMEN UNDER HIGH AMBIENT TEMPERATURE

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ABSTRACT

1. The objective was to examine the effect of supplemental dietary vitamin E and organic selenium (Se), and their combination, on improving semen quality characteristics and antioxidative status in cockerels exposed to high ambient temperature.
2. A total of 36 Egyptian local cross males, 40 weeks old, were housed individually in cages in an open-sided building (average daily temperature ranged from 33 to 36°C and relative humidity from 60 to 70%). Birds were divided randomly into 4 experimental treatments (n=9 each): (1) control (basal diet without any supplementation with vitamin E or Se); (2) vitamin E (basal diet +200 mg α-tocopherol acetate/ kg diet); (3) Se (basal diet + 0.3 mg organic Se/ kg diet); and (4) vitamin E + Se (basal diet +200 mg α-tocopherol acetate/ kg diet + 0.3 mg organic Se/ kg diet).
3. Under heat stress conditions, inclusion of vitamin E and/or organic Se in the cockerel diets enhanced the semen quality traits, including the spermatozoa count and motility, and reduced the percentage of dead spermatozoa.
4. A combination of 200 mg/kg vitamin E with 0.3 mg/kg organic Se reduced the thiobarbituric acid reactive substance (TBARS) concentration in seminal plasma samples to about 28% of the controls; and also enhanced the seminal plasma glutathione peroxidase (GSH-Px) activity by two-fold compared with controls.
5. It was concluded that dietary vitamin E in combination with organic Se has a synergistic effect in minimising lipid peroxidation and improving the antioxidative status in seminal plasma of the domestic fowl, which probably translated into enhanced spermatozoa count, motility and reduced percentage of dead spermatozoa under heat stress conditions.

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EUR FOOD RES TECHNOOLOGY ,235:447–455,2012

IMPACT FACTOR=1.566

CHARACTERIZATION OF NEW STRAIN LACTOBACILLUS PARACASEI I-N-10 WITH PROTEOLYTIC ACTIVITY: POTENTIAL ROLE IN DECREASE IN B-CASEIN IMMUNO-REACTIVITY

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ABSTRACT

The proteolytic activity of thirty-three LAB isolates from Mongolian tarag was tested on skimmed milk. The strain displaying the highest proteolytic activity was purified and presented by 16S rDNA sequencing 99.9 % homology with Lactobacillus paracasei 1-4-2A. It was named L. paracasei I-N-10. Proteases of L. paracasei I-N-10 hydrolyze predominately b-casein and in some level aS2-casein; hydrolysis of aS1 casein was not observed. Proteolytic activity was optimal at 42 _C and neutral pH. Proteases of L. paracasei I-N-10 were inhibited by serineand metalloproteases inhibitors. PCR amplification revealed the presence of prtP gene, which was identical to prtP gene of L. paracasei genus. Mass spectrometry analysis of b-casein hydrolysate allowed to characterize 7 peptides resulting from proteolysis by L. paracasei I-N-10. The isolated strain was able to cleave b-casein in different sites including 2 of the major linear epitopes implicated in its allergenicity. Being sensitive to main antibiotics classes, L. paracasei I-N-10 could be considered as safe and used as starter culture with a potential role in decreasing b-casein immuno-reactivity.

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JOURNAL OF THE AIR & WASTE MANAGEMENT ASSOCIATION,62(7):767–772, 2012

IMPACT FACTOR=1.517

EFFECTS OF FOLIAR APPLICATION WITH COMPOST TEA AND FILTRATE BIOGAS SLURRY LIQUID ON YIELD AND FRUIT QUALITY OF WASHINGTON NAVEL ORANGE (CITRUS SINENESIS OSBECK) TREES

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ABSTRACT

Sixteen-year-old navel orange trees at a private orchard located in Kafer El-Sheikh Governorate, Egypt, were used in this study. Compost tea (CT) and filtrate biogas slurry liquid (FLB) were applied at two different concentrations (50% and 100%); control trees were sprayed with water. Trees treated with CT at 100% were the highest in yield, fruit weight, and vitamin C, whereas the highest percentage of fruit set, fruit number, and soluble solid content (SSC), lowest fruit drop, and highest reducing and total sugars were in trees treated with 100% FLB. Concentrations at 50% for both foliar application (CT and FLB) improved yield and fruit characteristics than control treatment. Generally, using a foliar application of compost tea and filtrate biogas slurry liquid at (100%) treatments as food nutrients could be recommended to improve the yield and fruit quality of navel orange fruits under the current study conditions

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EGYPTION JOURNAL OF BIOLOGCAL PEST CONTROL, 22(2) 2012, 103-108

IMPACT FACTOR=0.159

EFFICACY AND SAFETY OF NON-TRADITIONAL METHODS AS ALTERNATIVES FOR CONTROL OF SITOPHILUS ORYZAE (L.) (COLEOPTERA: CURCULIONIDAE) IN RICE GRAINS

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ABSTRACT

In an attempt to find alternative control methods for stored product insects, biocide and zinc oxide nanoparticles was evaluated under laboratory conditions for their ability to protect rice (*Oryzae sativa* L var. Giza 171) grains against *Sitophilus oryzae* (Linnaeus) insect. The efficacy of the biocide and zinc oxide was evaluated as mortality and emergency rates of *S. oryzae* adults. Moreover, analysis was carried out to identify the chemical content of the biocide. Furthermore, the safety of biocide and zinc oxide nanoparticles were evaluated with respect to histological changes in kidney and liver of treated rats relative to control. The results revealed that, the biocide and zinc oxide nanoparticles showed high efficiency against *S. oryzae* with respect to mortality rate and progeny of adults. Analysis of biocide showed the presence of different bioactive components that known by its insecticidal activity. The biocide and zinc oxide nanoparticles showed slight toxicity on rats relative to control. The results suggest the ability of using biocide and zinc oxide nanoparticles in rice grains protection as a safe alternative to insecticides.

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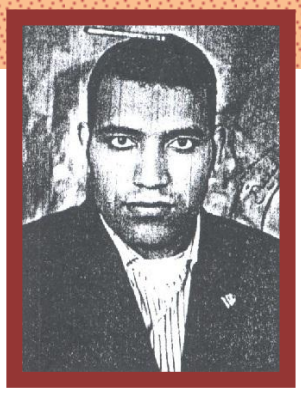
AJCS 6(1):23-30 ,2012

IMPACT FACTOR=1.632



EVALUATION OF REGENERATED STRAINS FROM SIX CUCURBITA INTERSPECIFIC HYBRIDS OBTAINED THROUGH ANTHER AND OVULE IN VITRO CULTURES

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ABSTRACT

Homozygous plants can be obtained in a single generation using doubled haploid technology, which can tremendously facilitate breeding programs. The present study reports on *in vitro* regeneration and production of double haploid plants through anther and ovule cultures resulting from the hybridization of cultivated species of *Cucurbita pepo* L. with three other Cucurbita species i.e. *C.moschata* L., *C. ficifolia* and *C. martinezii* L. Among six sucrose-2,4-Dichlorophenoxyacetic acid (2,4-D) combinations tested, the addition of 90 g l-1 sucrose and 1 mg l-1 2,4-D into the medium was found to be more suitable for callus regeneration from anthers. Anthers from the hybrid *C. pepo* L. (Queen F1) × *C. moschata* L. regenerated the highest percentage (40%) of plantlets from callus and highest average number of plantlets per callus (7.5) when the culture medium was supplemented with the aforementioned concentrations of sucrose and 2,4-D. Ovules collected from the hybrid *C. pepo* L. (MHTC77 F1) × *C. moschata* L. produced the highest percentage of regenerated plantlets (25.33%), the highest percentage of responded ovules (18.67%) and thehighest averagen number of plantlets per ovule (3.37). Cold pretreatment had negative effects on gynogenesis with the exception of the hybrid *C. pepo* L. (MHTC77 F1) × *C. moschata* L. Chromosome counting in the root tips of androgenic plantlets revealed 50% of haploid and ($n = x = 20$) and 50% of dihaploid plantlets ($2n = 2x = 40$). The assessment of root tips from gynogenic plantlets resulted in 60% haploid ($2n = x = 20$) and 40% diploid ($2n = 2x = 40$) plants. The androgenic strains were evaluated for their vegetative and reproductive traits compared with open local cultivar *C. pepo* L. (Eskandarani cv.). While the majority of regenerated strains were intermediate between the cultivated species of *C. pepo* L. and other Cucurbita species, mtwo regenerated strains proved superior to the local cultivar 'Eskandarani' in number of fruits (early and total yield/plot) as well as in total fruit yield per plot.

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ANIMAL SCIENCE JOURNAL (2012) 83, 594–598

IMPACT FACTOR=0.857

FEEDING ASPERGILLUS AWAMORI REDUCES SKELETAL MUSCLE PROTEIN BREAKDOWN AND STIMULATES GROWTH IN BROILERS

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ABSTRACT

This study was conducted to show that dietary supplementation of a fungus, Aspergillus awamori called Koji in Japan, reduces skeletal muscle protein breakdown and stimulates growth in broiler chickens. A total of 30 chicks at 15 days of age was divided into control and two treatment groups (10 birds per treatment). Control group was fed basal diet and treatment groups were fed the basal diets supplemented with A. awamori at levels of 0.05% and 0.2%. The birds were raised for 12 days from 15 to 27 days of age and then the effect on growth, organ weights and plasma 3 methylhistidine concentration and digestibilities of protein and energy was evaluated. The messenger RNAs (mRNAs) of atrogin-1, ubiquitin, proteasome, m-calpain, m calpain, b-actin, myosin and pax-7 in the breast muscle were also measured. Body weight gain and breast muscle weight were increased, although feed intake was decreased by the fungus and thus feed efficiency was increased. Protein and energy digestibilities were increased. Furthermore, plasma 3-methylhistidine concentration was decreased by the fungus. The mRNAs of atrogin-1, ubiquitin, proteasome, m calpain and m-calpain were all decreased. The mRNA of b-actin but not myosin and pax-7 was slightly increased by the fungus. In conclusion, feeding A. awamori improves growth performance because skeletal muscle proteolytic activity is reduced and digestibilities of energy and protein are increased.

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BRITISH JOURNAL OF NUTRITION (2012),108, 1596-1602

IMPACT FACTOR=3.013

THE MODIFICATION OF THE MUSCLE FATTY ACID PROFILE BY DIETARY SUPPLEMENTATION WITH ASPERGILLUS AWAMORI IN BROILER CHICKENS

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ABSTRACT

The present study was conducted to show that dietary supplementation with a fungus, Aspergillus awamori, modifies muscle fatty acid profiles in broiler chickens. A total of thirty chicks, selected from a group of 100 chicks aged 15 d, were divided into a control group and two treatment groups (ten birds per treatment). The control group was fed a basal diet, and the treatment groups were fed basal diets supplemented with A. awamori at levels of 0·05 and 0·2%. From the start of the study at 15 d, the birds were raised for an additional 12 d, and growth and the muscle fatty acid profile were evaluated. Although feed intake was decreased by the fungus, body-weight gain and breast muscle weight were increased, and thus, feed efficiency was improved. Abdominal fat and plasma cholesterol and TAG were decreased, while plasma HDL-cholesterol and breast muscle fat content were increased. Interestingly, muscle a-tocopherol content was increased and muscle thiobarbituric acid-reactive substances were decreased by A. awamori. Furthermore, there was an observed decrease in SFA and an increase in unsaturated fatty acids in the muscle fat due to the fungus feeding. The mRNA of fatty acid synthase, acetyl-CoA carboxylase and D-6 desaturase in the muscle were all increased, while the mRNA of 3-hydroxyl-3-methylglutaryl-CoA reductase and carnitine palmitoyl transferase= 1A were decreased by the fungus. In conclusion, the present study clearly shows that the muscle lipid profile could be modified by the addition of A. awamori to the diet.

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BIOCHEMISTRY AND CELL BIOLOGY, VOL. 102, NO. 9, 2012

IMPACT FACTOR=2.799

UP-REGULATION OF ANTIOXIDANTS IN TOBACCO BY LOW CONCENTRATIONS OF H2O2 SUPPRESSES NECROTIC DISEASE SYMPTOMS

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ABSTRACT

Upregulation of antioxidants in tobacco by low concentrations of H2O2 suppresses necrotic disease symptoms. Phytopathology 102:848-856. Pretreatment of tobacco leaves with low concentrations (5 to 10 mM) of H2O2 suppressed hypersensitive-type necrosis associated with resistance to *Tobacco mosaic virus* (TMV) or *Pseudomonas syringae* pv. *phaseolicola*. The same pretreatment resulted in suppression of normosensitive necrosis associated with susceptibility to *Botrytis cinerea*. This type of H2O2-mediated, induced disease symptom resistance correlated with enhanced host antioxidant capacity, i.e., elevated enzymatic activities of catalase (CAT), ascorbate peroxidase (APX), and guaiacol peroxidase (POX) after viral and bacterial infections. Induction of genes that encode the antioxidants superoxide dismutase (SOD), CAT, and APX was also enhanced early after TMV infection. Artificial application of SOD and CAT suppressed necroses caused by viral, bacterial, or fungal pathogens similarly as H2O2 pretreatment, implying that H2O2-mediated symptom resistance operates through enhancement of plant antioxidant capacity. Pathogen multiplication was not significantly affected in H2O2- pretreated plants. Salicylic acid (SA), a central component of plant defense, does not seem to function in this type of H2O2-mediated symptom resistance, indicated by unchanged levels of free and bound SA and a lack of early up-regulation of an SA glucosyltransferase gene in TMV-infected H2O2-pretreated tobacco. Taken together, H2O2-mediated, induced resistance to necrotic symptoms in tobacco seems to depend on enhanced antioxidant capacity.

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ANN. MICROBIOL (2012) 62:1021–1029

IMPACT FACTOR= 0.689

ANTIFUNGAL ACTIVITY OF SOME PLANT EXTRACTS AGAINST SUGAR BEET DAMPING-OFF CAUSED BY SCLEROTIUM ROLFSII

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ABSTRACT

crude extracts of seven plant species (Bauhinia purpurea, Caesalpinia gilliesii, Cassia fistula, Cassia senna, Chrysanthemum frutescens, Euonymus japonicus and Thespesia populnea var. acutiloba) were evaluated against Sclerotium rolfsii, the causative fungus of damping-off, under laboratory and greenhouse conditions. Gas chromatography-mass spectrometry analysis was performed to identify possible biologically active components (tetradecanoic acid, pentadecanoic acid, hexadecanoic acid, phytol, linalool, 1,8 cineole and 9, 12, 15 octadecanoic acid) from the plant extracts most effective against S. rolfsii. Laboratory experiments indicated that leaf extracts of T. populnea var. acutiloba and Chrysanthemum frutescens were most effective against S. rolfsii. Greenhouse experiments confirmed that T. populnea var. acutiloba and Chrysanthemum frutescens extracts were most effective against the damping-off pathogen, either by coating or soaking of sugar beet seeds. None of the extracts tested produced phytotoxic effects on sugar beet leaves, even at the highest concentration applied. The most effective plant extracts showed low toxicity in rats relative to controls with respect to histological tests. The extracts assayed represent a potentially safe control method for damping-off disease in sugar beet.

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AFRICAN ENTOMOLOGY 20(1): 27–34 (2012)

IMPACT FACTOR= 0.470

SOME RECENT APPROACHES TO CONTROL TUTA ABSOLUTA IN TOMATO UNDER GREENHOUSE CONDITIONS

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ABSTRACT

Tuta absoluta (Meyrick) is considered the major pest that attacks tomato in many countries. Some insecticides (indoxacarb, imidacloprid) and non-traditional methods (culture filtrate of *Bacillus thuringiensis*, *Artemisia cina* extract, clove oil and nanosilica) were evaluated against *T. absoluta* in tomato under greenhouse conditions. Furthermore, GC-MS analysis was carried out to identify the chemical components of *B. thuringiensis* culture filtrate as well as *A. cina* and clove oil extracts. Nanosilica was the most effective treatment against *T. absoluta* followed by *A. cina*, imidacloprid + *A. cina***,** indoxacarb**,** filtrate of *B. thuringiensis*, imidacloprid**,** indoxacarb + *A. cina* and clove oil treatments, respectively. The mixing of the tested insecticides with *A. cina* improved the efficiency against the tested insect relative to using insecticides alone. The results suggest possible use of the tested natural products and nanosilica as alternatives for *T. absoluta* control. Also, this study suggests the possible mixing of the *A. cina* extract with the tested insecticides to minimize health risk and environmental pollution.

EGYPTION JOURNAL OF BIOLOGCAL PEST CONTROL, 22(2),2012,185-190

IMPACT FACTOR= 0.159

ALTERNATIVES TO CONTROL POWDERY MILDEW AND EARLY BLIGHT DISEASES OF TOMATO UNDER GREENHOUSE CONDITIONS

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ABSTRACT

Powdery mildew, *Oidiopsis taurica* *(Leveillula taurica)* and early blight , *Alternaria solani* induces significant losses in yield and quality of tomato fruits. Therefore, this study was an attempt to evaluate some non-traditional methods (culture filtrate of *Bacillus subtilis*, *Artemisia cina* and clove oil extracts as well as nanosilica) against powdery mildew of tomato under greenhouse conditions for two growing seasons; 2010 and 2011. Penconazole and Equation® Pro (cymoxanil + famoxadone) were used as a recommended compound against powdery mildew and early blight diseases, respectively. All treatments were applied four times with 7 days intervals relative to control in each season. Obtained results showed that all tested treatments were effective against the powdery mildew and early blight diseases relative to control. Penconazole, *B. subtilis* filtrate and clove oil were the most effective treatments, followed by *A. cina* extract while nanosilica was the lowest effective one against powdery mildew disease in both seasons**.** *B. subtilis* filtrate and Equation-pro were the most effective against early blight disease, followed by clove oil, *A. cina* extracts and nanosilica treatments in both growing seasons. The results suggest possible use of natural products and nanosilica as effective and safe alternative control methods for powdery mildew and early blight diseases in tomato.

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EGYPTIAN JOURNAL OF BIOLOGICAL PEST CONTROL,22(2),2012,205-2010

IMPACT FACTOR= 0.159

SOME RECENT APPROACHES TO CONTROL POWDERY MILDEW OF PEPPER UNDER GREENHOUSE CONDITIONS

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ABSTRACT

Powdery mildew disease caused by *Leveillula taurica* induces significant losses in yield and quality of pepper. Therefore, this study attempted to evaluate some non-traditional methods (culture filtrate of *Bacillus subtilis*, fulvic acid, *Artemisia cina* and clove oil extracts as well as nanosilica) against powdery mildew of pepper under greenhouse conditions during two seasons. Carbendazim was used as recommended compound against Powdery mildew fungus to evaluate the efficacy of the non-traditional materials. All treatments were applied four times with 7 days intervals compared to control in each season. The results showed that, all the treatments were effective against powdery mildew fungus of pepper compared to control. Fulvic acid was the most effective treatment against powdery mildew followed by the filtrate of *B. subtilis* and clove oil treatments while *A. cina* extract, carbendazim and nanosilica were the lowest effective treatments, respectively in both tested seasons. The results suggest the possible use of the natural products and nanosilica as effective and safe alternative control methods for powdery mildew of pepper. The use of these materials can reduce the reply on chemical fungicides and consequently can reduce both the environmental pollution and health hazardous.

AGROCHIMICA. VOL. LV1-N.4-5,2012

IMPACT FACTOR= 0.250

FICIENCY OF DIFFERENT REMEDIATION TECHNOLOGIES FOR FENITROTHION AND DIMETHOATE REMOVAL IN THE AQUATIC SYSTEM

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ABSTRACT

This study was carried out to evaluate the efficiencies of different remediation technologies (advanced oxidation processes and bioremediation) for removing fenitrorthion and dimethoate in water. Nano photo-Fenton reagent (Fe0(nano)/ H2O2/UV) was the most effective treatment for fenitrorthion and dimethoate removal in water, whereas UV alone was the least effective one. Bioremediation of fenitrorthion and dimethoate by effective microorganisms (EMs) removed approximately 100% of their initial concentration after 5 weeks of treatment. There was no remaining toxicity in fenitrorthion and dimethoate contaminated water after remediation on treated rats with respect to cholinesterase activity except for UV alone. Advanced oxidation processes, especially with nanomaterials, and bioremediation with EMs can be regarded as safe and effective remediation technologies for fenitrorthion and dimethoate in water

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PLANT PROD. SCI. 15(4): 332—338 (2012)

IMPACT FACTOR = 1.000

THE EFFECT OF DIFFERENT NITROGEN SOURCES FROM UREA AND AMMONIUM SULFATE ON THE SPIKELET NUMBER IN EGYPTIAN SPRING WHEAT CULTIVARS ON WELL WATERED POT SOILS

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ABSTRACT

The spikelet number (SPN) is an important wheat yield component decided before anthesis. Our objective was to determine the effect of nitrogen (N) from urea and ammonium sulfate split-applied at different rates before anthesis on the SPN in the recent Egyptian cultivars Sakha93 and Sakha94 and two commonly used cultivars in pots. The response of SPN to applied N from ammonium sulfate was higher than that from urea in all four cultivars used. However, there was no difference in the responses of SPN to absorbed N from the two fertilizers in any of the cultivars. The SPN per applied and absorbed N was the highest in Sakha94 among the four cultivars. These cultivar differences in the SPN were due to the difference in the spike number. The results suggested that the N from ammonium sulfate has a greater effect on SPN than that from urea in recent Egyptian cultivars.

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PHYTOPARASITICA, 40:177–184, (2012)

IMPACT FACTOR= 0.887

CUCURBIT APHID-BORNE YELLOWING VIRUS (CABYV) IN EGYPT

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ABSTRACT

During 2010, yellowing symptoms were frequently observed in cultivated squash fields in Egypt. A total of 717 symptomatic squash leaf samples were collected from four regions where squash cultivation is of economic importance for the country: Kafrelsheikh, El-Behira, El-Sharkia and El-Ismailia. Serological analysis showed that 95.6% of the symptomatic squash samples were infected by *Cucurbit aphid-borne yellows virus* (CABYV), and visual estimation of the incidence of yellowing symptoms suggested a very high incidence of CABYV in the fields. Twelve CABYV isolates were characterized by sequencing two regions of the viral genome, open reading frame (ORF) 3 and ORFs 4/5. Overall, Egyptian isolates were very similar among them, and had higher similarity values with a French than with a Chinese isolate. The average nucleotide diversity for ORF 3 was significantly higher than for the other two regions, indicating that variability is not evenly distributed along the viral genome. The ratios between nucleotide diversity values in non-synonymous (dN) and synonymous (dS) positions (dN/dS) for each ORF showed that the three ORFs are evolving under different pressures, although predominantly under puri- fying selection. Phylogenetic analyses revealed that these Egyptian isolates, with only one exception, shared the same clade with a French isolate. Moreover, these analyses suggested that Egyptian isolates belong to the Mediterranean group described previously

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EUROPEAN JOURNAL OF PLANT PATHOLOGY,2012 133:353–360

IMPACT FACTOR= 1.413

OCCURRENCE AND INCIDENCE OF PHYTOPLASMAS OF THE 16SRII-D SUBGROUP ON SOLANACEOUS AND CUCURBIT CROP IN EGYPT

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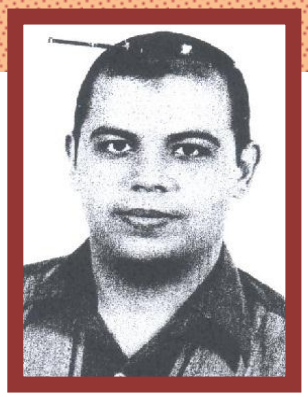
ABSTRACT

ABSTRACT

Symptoms reminiscent of phytoplasma infection were observed in four provinces (governo- rates) of Egypt in fields of eggplants, tomato plants and squash. Diseased plants exhibited stunting, leaf yellows and flower development abnormalities. PCR amplification of 16SrDNA with phytoplasma-specific primer pairs confirmed the phytoplasma presence. Sequencing and phylogenetic analysis indicated that all phytoplasmas had the same partial 16SrDNA sequence, assigning them to the 16SrII-D phyto- plasma subgroup. Disease incidence was about 1% among the 20 squash fields surveyed and equally varied from 4% to 15% in the 20 eggplant fields and in the 40 tomato fields inspected. The widespread distribution of this phytoplasma in annual solana- ceous and cucurbit crops suggests a wider plant host range including wild plants that could act as reservoir and insist on the need for a insect vector survey. A finer genetic differentiation of Egyptian 16SrII-D phytoplasma strains from different geographical ori- gins and different host plants should help to better trace such epidemics

PLANT PATHOLOGY (2012) 61, 964–976

IMPACT FACTOR= 2.125



INDUCTION OF SYSTEMIC RESISTANCE AGAINST CUCUMBER MOSAIC VIRUS BY PENICILLIUM SIMPLICISSIMUM GP17-2 IN ARABIDOPSIS AND TOBACCO

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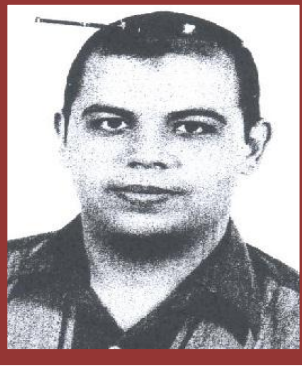
ABSTRACT

The plant growth-promoting fungus, Penicillium simplicissimum GP17-2, was evaluated for its ability to induce resistance against Cucumber mosaic virus (CMV) in Arabidopsis thaliana and tobacco plants. Treatment with barley grain inoculum (BGI) of GP17-2 significantly enhanced fresh weight, dry weight and leaf number of A. thaliana and tobacco plants 6 weeks after planting. Two weeks after CMV inoculation, all plants treated with BGI of GP17-2 or its culture filtrate (CF) showed a signifi- cant reduction in disease severity compared with non-treated control plants, which exhibited severe mosaic symptoms by the end of the experiment. The enzyme-linked immunosorbent assay (ELISA) demonstrated that CMV accumulation was signifi- cantly reduced in plants treated with GP17-2 or its CF relative to control plants. Based on RT-PCR, plants treated with GP17-2 (BGI or CF) also exhibited increased expression of regulatory and defence genes involved in the SA and JA / ET signalling path- ways. These results suggested that multiple defence pathways in A. thaliana and tobacco were involved in GP17-2-mediated resistance to CMV, although neither the transgenic NahG line, nor the npr1, jar1 or ein3 mutants disrupted the response in A. thaliana. This is the first report to demonstrate the induction of systemic resistance against CMV by GP17-2 or its CF.

PLANT SOIL PUBLISHED ONLINE 5 MAY,2012

IMPACT FACTOR= 2.733



THE PLANT GROWTH-PROMOTING FUNGUS FUSARIUM EQUISETI AND THE ARBUSCULAR MYCORRHIZAL FUNGUS GLOMUS MOSSEAE INDUCE SYSTEMIC RESISTANCE AGAINST CUCUMBER MOSAIC VIRUS IN CUCUMBER PLANTS

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ABSTRACT

Aims The aim of this study was to elucidate the effects of the interactions between the arbuscular mycorrhizal fungus Glomus mosseae (Gm) and Fusarium equiseti GF18-3 on cucumber growth and the biocontrol of the yellow strain of Cucumber mosaic virus (CMV-Y). Methods Cucumber plants were pre-inoculated with Gm and GF18-3 for 4 weeks before the leaves were inoculated with CMV. CMV accumulation in cucumber leaves was determined using an indirect enzyme-linked immunosorbent assay (ELISA) at 1, 2, and 3 weeks post- inoculation (WPI). An RT-PCR analysis was performed to evaluate the expression levels of defence-related genes. Results The co-inoculation of cucumber plants with Gm and GF18-3 or GF18-3 alone resulted in effective control of CMV disease severity, though no significant reduction was observed in the Gm-alone treatment. CMV accumulation was significantly decreased in cu- cumber plants treated with combined inoculation or with GF18-3 alone at 1, 2, and 3 WPI. The RT-PCR results revealed higher expression levels of SA- inducible genes in all treatments, while only Gm treat-ment of plants induced JA-inducible genes. Conclusion The dual inoculation treatment and inoc- ulation with GF18-3 alone have the potential to reduce disease severity and increase plant growth. Moreover, modulation of plant defence responses in the shoots may contribute to this protection.

Faculty of Veterinary Medicine

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VIRUS RESEARCH 163 (2012) 310–319

IMPACT FACTOR= 2.941

FUNCTIONAL CHARACTERIZATION OF EUL47 IN PRODUCTIVE REPLICATION, MORPHOGENESIS AND INFECTIVITY OF EQUINE HERPES VIRUS

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ABSTRACT

EUL47 is a major component of the tegument of equine herpesvirus 1 (EHV-1). To determine its function, we used Red/ET cloning to delete its gene (gene 13) from EHV-1 strain Ab4p inserted into a bacterial artificial chromosome (BAC), yielding Ab4pattB_13.Wealso examined the reverted virus (Ab4pattB13R). Ab4pattB_13 replicated in rabbit kidney (RK)-13 cells, indicating that ORF13 is dispensable for virus replication in cell culture. Its intracellular and extracellular titers were about 10- and 100-fold lower than those of the revertant and parent strains, respectively. In addition, the plaque size was half the plaque sizes of the other two strains. The particle-to-plaque forming unit ratio of Ab4pattB_13 was 21- fold greater than the ratios of the revertant and parent strains. No enveloped virions were detected in the cytoplasm of Ab4pattB_13-infected cells by transmission electron microscopy. In hamster, Ab4pattB_13 caused clinical signs and weight loss after only 1 day, but induced less severe neurological signs than did the revertant and parent strains. These results indicate that EUL47 is structurally required for normal virus replication, viral morphogenesis and viral infectivity, and that loss of EUL47 moderately attenuates the neuropathogenicity of EHV-1 in the hamster model.

JOURNAL OF FOOD SAFETY, 32 (2012) 1–5

IMPACT FACTOR=0.720

SOURCE DIVERSITY OF TOXOPLASMA GONDII INFECTION DURING MEAL PREPARATION

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ABSTRACT

Potential sources of *Toxoplasma gondii* infection, as a foodborne zoonotic disease, and suggested control strategies, were investigated. Samples of fresh buffalo meat (FBM) and imported frozen buffalo meat (IFBM), raw vegetables (RVs) and irrigation water (IW) were examined for the presence of *T. gondii* infective stages. Serum samples from housewives, regarding their gloves usage, were serologically inspected for *T. gondii* antibodies. The prevalence of *T. gondii* tissue cysts in FBM and IFBM were 15.4 and 0%, respectively.FBMhad an increased risk of 18.60 times than IFBM. The prevalence of *T. gondii* tissue cysts in RV and IW were 13 and 16.7%, with 0.78 times increased relative risk, respectively. The total antibodies were significantly differed between nonglove users and glove users,with seropositivities of 31 and 10.3%, respectively. Soaking of RV in water at 65C or in vinegar solution at 45C for 1 min was an effective treatment for complete elimination of the contaminant *T. gondii*

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JOURNAL OF FOOD SAFETY 32 (2012) 115–121

IMPACT FACTOR=0.720

PLANT EXTRACTS AS POTENT BIOPRESERVATIVES FO SALMONELLA TYPHIMURIUM CONTROL AND QUALITY ENHANCEMENT IN GROUND BEEF

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ABSTRACT

Plants are continually the generous source to supply man with valuable bioactive substances. Six plant extracts were evaluated as potential bio preservatives to solve the catastrophe of beef contamination with *Salmonella* Typhimurium and improve ground beef overall quality. Five of the examined plant extracts exhibited remarkable antibacterial activities, using different assays, against three *S.* Typhimurium strains. Supplementation of experimentally inoculated beef trimmings with pomegranate peel extract (PPE) and cinnamon bark extract (CBE) resulted in a sharp reduction in bacterial cell counts during storage period for 7 days. Blending of ground beef with the double minimal inhibitory concentration (MIC) from PPE or with a combination from PPE and CBE, at their MIC values, completely inhibited *S.* Typhimurium growth within the first days of storage. All of the examined sensory characteristics, e.g., odor, color and overall quality,were greatly raised subsequent to the supplementation of ground beef with plant extracts.

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ZOONOSES AND PUBLIC HEALTH,
RECEIVED FOR PUBLICATION APRIL 2, 2012

IMPACT FACTOR= 1.895

SEROPREVALENCE OF HEPATITIS E VIRUS IN HUMANS AND GEOGRAPHICALLY MATCHED FOOD ANIMALS IN EGYPT

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ABSTRACT

The aim of current study was to investigate the epidemiology of Hepatitis E virus (HEV) in humans and geographically matched food animals as a novel zoonotic assessment in Egypt. Blood samples were collected from patients who had a history of jaundice and attended to fever and general hospitals. Animal blood samples were collected from cows, buffaloes, sheep and goats convenient to HEV seropositive humans. Enzyme Immuno Assay (EIA) protocol was used to determine IgG anti HEV. Sex and pregnancy were investigated as potential risk factors for HEV infection. Of 134 examined humans, 51 (38.1%) were positive for IgG anti-HEV. The males showed 26.8% seropositivity while the recorded female seropositivity was 50.8%, with a significant difference at P = 0.005, Odds Ratio (OR) = 0.35 at 95% confidence interval (CI): 0.17–0.73. There was a significant difference at P = 0.02 between seropositivity in pregnant (25%) and non-pregnant women (59.6%); OR was 0.23 (95% CI: 0.06– 0.81). Anorexia was the most common symptom whereas paraesthesia and back pain were the least within icteric seropositive HEV humans. Hepatitis E virus seropositivity was recorded in 21.6%, 14%, 4.4% and 9.4% from examined cows, buffaloes, sheep and goats, respectively. The infected food animals were convenient to positive HEV humans who may declare the epidemiological picture of potential zoonotic HEV.

FOODBORNE PATHOGENS AND DISEASE, Volume 9, Number 8, 2012

IMPACT FACTOR=2.260

SURFACE DECONTAMINATION AND QUALITY ENHANCEMENT IN MEAT STEAKS USING PLANT EXTRACTS AS NATURAL BIO PRESERVATIVES

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ABSTRACT

Nine plant extracts were evaluated as biopreservatives to decontaminate and maintain the quality of meat steaks. Most of the extracts exhibited a remarkable antibacterial activity against antibiotic resistant strains from Salmonella Typhimurium and Staphylococcus aureus. The pomegranate peel extract (PPE), cinnamon bark extract (CBE), and lemon grass leaves extract (LGE) were the most effective as bactericides, with minimal inhibitory concentrations (MIC) of 250, 350, and 550 lg/mL, respectively. The most effective treatments, for decontaminating meat steak surfaces, were the application of combined PPE, CBE, and LGE at their MIC values and the treatment with double MIC from PPE; these treatments resulted in complete bacterial inhibitions during the first V2 days of storage period for 7 days. The sensory evaluation of treated steaks revealed that these two treatments had the highest panelist overall scores. The highest scores, for individual attributes, were observed in the treated steaks with double MIC from PPE. Application of plant extracts could be impressively recommended for comprehensive meat decontamination and quality attributes enhancement.

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ANIMAL REPRODUCTION SCIENCE 132 (2012) 29–35

IMPACT FACTOR= 1.750

ENHANCING FOLLICULAR GROWTH AS A PREREQUISITE FOR GNRH TREATMENT OF TRUE ANESTRUM IN BUFFALO

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ABSTRACT

A total of 140 true anestrous buffalo were divided on the basis of receiving short-term (20 days) nutritional supplementation (N, n = 80) or not (WN, n = 60). The animals in N group were subdivided into NQ (n = 40) where the quantity of the offered diet was increased by 20% and NF (n = 40) where the offered diet was supplemented by 3% of dry protected fat. Buffaloes in either NQ or NF were equally allotted on the following treatment regimens: Insulin/GnRH (NQi or NFi, n = 10 for each); rbST/GnRH (NQr or NFr, n = 10 for each); GnRH alone treated (NQG or NFG, n = 10 for each) and saline-treated control (NQc or NFc, n = 10 for each). Insulin-treated subgroups (NQi or NFi) received s/c injection of insulin at a dose of 0.25 I.U./kg on Days 21, 22 and 23 while rbST–treated subgroups (NQr or NFr) received single IM injection of rbST (500 mg Sometribove) on Day 21. GnRH was injected at a dose of 0.020 mg buserelin (5 ml Receptal®) on Day 24 in all subgroups except NQCand NFC where Day 1 was the first day of the short-term nutritional improvement. Buffalo in the WN (n = 60) were equally allotted on the same treatment regimens applied in the first group insulin/GnRH (WNi, n = 15), rbST/GnRH (WNr, n = 15); GnRH alone treated (WNG, n = 15) and saline-treated control (WNC, n = 15). Ultrasonic scanning of ovaries was conducted on Day 24 to measure largest follicle diameter (LFD). The results showed increases ($P < 0.05$) in the LFD following nutritional supplementation with insulin or rbST. The recorded EIRs for GnRH pre-treated with nutritional improvement – metabolic hormones combinations (9/10 and 8/10 for NQi and NFi or 8/10 for NQr) were greater ($P < 0.05$) than those pre-treated with either metabolic hormone alone (7/15 for WNi and/or WNr) or nutritional improvement alone (6/10 for NQG and/or NFG) and control as well. The greatest CR was recorded in the NQi group. It could be concluded that pre-GnRH nutritional improvement plus administration of insulin or rbST increases LFD in true anestrous buffalo having LFD < 8.5 mm thereby increasing their fertility response to GnRH in terms of EIRs and CRs.

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ANIMAL REPRODUCTION SCIENCE 136 (2012) 23–32

IMPACT FACTOR=1.750

METHODOLOGICAL FACTORS AFFECTING THE RESULTS OF STAINING FROZEN–THAWED FERTILE AND SUBFERTILE JAPANESE BLACK BULL SPERMATOZOA FOR ACROSOMAL STATUS

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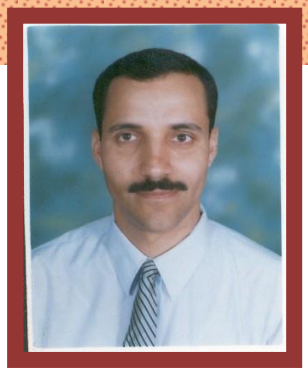
ABSTRACT

In the present study, some methodological factors affecting the acrosomal staining of frozen–thawed Japanese Black bull spermatozoa were investigated by examining; the effect of fixation/permeabilization procedure on intact acrosome percentage after fluorescein isothiocyanate peanut agglutinin (FITC-PNA) staining, the acrosomal staining patterns by using two types of fluorescent probes FITC-PSA (Pisum Sativum Agglutinin) and FITC-PNA and the effect of staining methods, either smear or vial, on intact acrosome percentage. Then intact acrosome percentage was compared between the samples stained by thus established method and those simply fixed with glutaraldehyde (glutaraldehyde fixation method). A possibility that FITC-PNA staining or the glutaraldehyde fixation methods could detect any difference in intact acrosome percentage or acrosomal staining patterns between fertile and subfertile bulls was also examined. The results showed that (1) 4% paraformaldehyde fixation plus 1% Triton X-100 permeabilization was better than absolute ethanol alone, (2) FITC-PNA acrosomal labeling was more specific than FITC-PSA, (3) sperm suspensions should be smeared and gently processed before acrosomal staining rather than spotted onto glass slides after staining in vial in order to avoid excessive mechanical damage of the sperm acrosome, and (4) staining spermatozoa with FITC PNA had no major advantages over examination of simply glutaraldehyde fixed sperm samples and both failed to detect any significant difference in intact acrosome percentage between the fertile and the subfertile bulls used here. The present study demonstrates important methodological considerations which need to be taken into account in order to design a reliable and reproducible protocol for the study of the acrosome.

VETERINARY QUARTERLY, VOL. 31, NO. 4, DECEMBER 2011, 165–171

IMPACT FACTOR=1.667



EFFECT OF DIFFERENT PHOTOPERIODS AND MELATONIN TREATMENT ON RABBIT REPRODUCTIVE PERFORMANCE

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ABSTRACT

Rabbit production in Egypt exhibits a seasonal pattern with much higher yields from September to May. This variation might be explained by reproductive performance as controlled by annual photoperiodicity. Hypothesis/objectives: The aim of this study was to investigate whether the reproductive performance of rabbits can be improved by either increasing the photoperiod or by administering melatonin supplement. Animals and methods: In total 78 White New Zealand rabbits (60 does and 18 bucks) were used during September and October reared in a private Rabbitary in Menuofia Governorate, Egypt. The animals were randomly assigned to six treatment groups of 10 does and three bucks each (8, 10, 12, 14, and 16 h light and melatonin (1 mg/kg BW/day orally for two weeks). Ejaculate traits, sexual activity of bucks, sexual receptivity and reproductive performance of does were recorded. Results: The results revealed that exposure of rabbits to long photoperiods (14 and 16 h light) or treatment with melatonin improved the quantity and quality of ejaculate traits and buck sexual activity as well as doe's sexual receptivity, feed intake, litter size, weight at birth and time-to-weaning. On the other hand, gestation period and pre-weaning mortality percentage decreased. Conclusions: Application of long photoperiods is beneficial to rabbit producers and 14 h light combined with 10 h dark is optimal for satisfying the physiological requirements of the rabbits. Finally, from an economic point of view, the light schedules are cheap and easy to apply and can be used as biostimulation instead of melatonin.

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CELL HOST AND MICROBE VOL.12,654-656,2012.

IMPACT FACTOR= 13.500

SALMONELLA TRANSFORMS FOLLICLE-ASSOCIATED EPITHELIAL CELLS INTO M CELLS TO PROMOTE INTESTINAL INVASION

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ABSTRACT

S. Typhimurium targets antigen-sampling microfold (M) cells as the preferred cell type to translocate across the gut epithelium. Although M cells represent a small proportion of the specialized follicular associated epithelium (FAE) overlying mucosa-associated lymphoid tissues, their density increases during Salmonella infection. The molecular mechanism underlying this Salmonella-mediated increase in M cell density was uncertain. Using in vitro and in vivo infection models we demonstrate that the S. Typhimurium type III effector protein SopB induces an epithelial-mesenchymal transition (EMT) of FAE enterocytes into M cells. This cellular trans-differentiation depends on the activation of Wnt/□-catenin signalling leading to induction of both RANKL and its receptor RANK. The autocrine activation of RelB expressing FAE enterocytes by RANKL/RANK induces EMT regulator Slug that marks epithelial trans-differentiation into M cells. This study demonstrates a novel host-pathogen interaction in which S. Typhimurium transforms primed epithelial cells into M cells to promote host colonization and invasion

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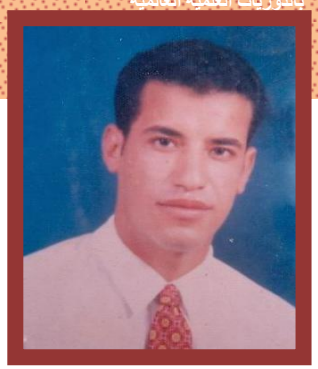
INFECTION AND IMMUNITY, NOV. 2011,Pp. 4716-4729

IMPACT FACTOR= 4.165



COMPARATIVE ANALYSIS OF ESPF VARIANTS IN INHIBITION OF ESCHERICHIA COLI PHAGOCYTOSIS BY MACROPHAGES AND INHIBITION OF E. COLI TRANSLOCATION THROUGH HUMAN- AND BOVINE – DERIVED M CELLS

TAHOUN A ; Siszler G ; Spears K ; McAteer S ; Tree J ; Paxton E ; Gillespie TL ; Martinez-Argudo I ; Jepson MA ; Shaw DJ ; Koegl M ; Haas J ; Gally DL ; Mahajan A

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ABSTRASCT

The EspF protein is secreted by the type III secretion system of enteropathogenic and enterohemorrhagic *Escherichia coli* (EPEC and EHEC). EspF sequences differ between EHEC O157:H7, EHEC O26:H11 and EPEC O127:H6 in terms of the number of SH3-binding polyproline rich repeats and specific residues in these regions as well as residues in the amino domain involved in cellular localization. $EspF_{O127}$ is important for the inhibition of phagocytosis by EPEC and also limits EPEC translocation through antigen-presenting cells (M-cells). $EspF_{O127}$ has been shown to have effects on cellular organelle function and interacts with several host proteins including N-WASP and Sorting Nexin 9 (SNX9). In this study we have compared the capacity of different *espF* alleles to inhibit: (i) bacterial phagocytosis by macrophages; (ii) translocation through an M-cell co-culture system; (iii) uptake by and translocation through cultured bovine epithelial cells. The $espF_{O157}$ allele was significantly less effective at inhibiting phagocytosis and also had reduced capacity to inhibit *E. coli* translocation through a human-derived *in vitro* M-cell co-culture system in comparison to $espF_{O127}$ and $espF_{O26}$. In contrast, $espF_{O157}$ was the most effective allele at restricting bacterial uptake into and translocation through primary epithelial cells cultured from the bovine terminal rectum, the predominant colonisation site of EHEC O157 in cattle and a site containing M-like cells. Although LUMIER binding assays demonstrated differences in the interactions of the EspF variants with SNX9 and N-WASP, it may be that other yet uncharacterized interactions may contribute to the host-based variation in EspF activity determined in this study.

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J. COMP. PATH. 2012, VOL. 146, 211-222

IMPACT FACTOR=1.647

KINETICS AND PATHOGENICITY OF ORAL INFECTION BY EQUINE HERPESVIRUS-9 IN MICE AND SUCKLING HAMSTERS

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ABSTRACT

The pathogenesis and kinetics of oral infection by equine herpesvirus (EHV)-9 were studied in mice and hamsters. After oral inoculation of 105 plaque-forming units (PFU) of virus, 1-week-old suckling hamsters showed varying severity of neurological disease from 72 hours post inoculation (hpi) and all of these animals had died by 96 hpi. Four-week-old ICR mice inoculated orally with 4 _ 104 PFU of virus showed no clinical signs, but they developed erosive and ulcerative gastritis from 36 hpi. Varying degrees of encephalitis were seen in infected mice and hamsters, and the hamsters also developed myelitis by 96 hpi. Immunohistochemistry performed on whole body sections of suckling hamsters revealed the kinetics of spread of the virus to the central nervous system. EHV-9 antigen was detected initially in macrophages of the oral and lingual submucosa. At 36 hpi virus antigen was detected in the nerve fibres and pseudounipolar neurons of the trigeminal ganglion and at 96 hpi antigen was present in the myenteric plexuses of the intestine. Virus antigen was also detected in the liver, lungs and heart of affected animals. EHV-9 DNA was detected by polymerase chain reaction in the brain, blood and spinal cord of suckling hamsters at 36, 48 and 96 hpi. These findings show that EHV-9 may spread via the trigeminal nerve when mice and hamsters are inoculated orally with virus.

JOURNAL OF EQUINE VETERINARY SCIENCE, 31 (2011) 72-77

IMPACT FACTOR= 0.671

NEUROPATHOGENICITY OF EQUINE HERPESVIRUS 9 IN CATTLE

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ABSTRACT

The pathogenicity of equine herpesvirus 9 (EHV-9), a neurotropic equine herpesvirus isolated from a herd of Gazella thomsoni, was studied in cattle. Seven calves were inoculated intranasally with 105 and 107 plaque-forming units of the EHV-9 P19. Three animals showed brain lesions consisting of glial reactions and perivascular cuffings in the olfactory bulb and the frontal and temporal lobes. Additionally, the animal that was inoculated with 107 plaque-forming units showed neuronal degeneration and loss, as well as nuclear inclusions compatible with herpesvirus. EHV-9 was isolated from the brain of calf 6 and the lungs of calves 1 and 2. The results suggested that cattle are susceptible to experimental infection with EHV-9 and at risk from natural infection from reservoir hosts.

Downloaded from vet.sagepub.com at Gifu Univ Library(2009) on July 22,2010, Vet. Pathology 47(5)1-7,2011

IMPACT FACTOR=1.945

STUDY ON THE INFECTIVITY OF EQUINE HERPESVIRUS 9 (EHV-9) BY DIFFERENT ROUTES OF INOCULATION IN HAMSTERS

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ABSTRACT

The infectivity and pathology of equine herpesvirus 9 (EHV-9), a new neurotropic equine herpesvirus isolated from gazelles, was studied in hamsters experimentally infected via nasal, ocular, oral, intravenous (IV), or peritoneal routes. Clinically, all animals inoculated by the nasal route and *25% inoculated by the oral and peritoneal routes showed neurological signs on days 3, 6, and 9 postinoculation (PI), respectively. Neurological signs were not observed in animals administered EHV-9 by the IV and ocular routes. With the exception of animals administered EHV-9 by the IV route, all infected animals had lymphocytic meningoencephalitis. Although there were a number of differences in the severity and distribution of the lesions depending on the route of inoculation, the basic features of lymphocytic meningoencephalitis caused by EHV-9 were common. Lesions consisted of neuronal necrosis, perivascular aggregates of lymphocytes, plasma cells, and neutrophils, gliosis, intranuclear inclusion bodies, and diffuse lymphocytic infiltrates in the meninges. Viral antigen was detected in degenerated neurons in infected animals inoculated by the nasal, ocular, oral, and peritoneal routes. The distribution of EHV-9 antigen was somewhat dependent on inoculation route. There were no microscopic abnormalities or viral antigen in animals treated by the IV route. This study provides new data about experimental EHV-9 infection in hamsters through routes other than the IV route. These results suggest that in the animals infected by the oral, ocular, and peritoneal routes, EHV-9 might travel to the brain through nerves, other than by the olfactory route, after initial propagation at the site of viral entry

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J. COMP. PATH. 2012 VOL. 146, 211-222

IMPACT FACTOR=1.647

KINETICS AND PATHOGENICITY OF EQUINE HERPESVIRUS-9 INFECTION FOLLOWING INTRAPERITONEAL INOCULATION IN HAMSTERS

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ABSTRACT

The kinetics of infection and pathogenicity of equine herpesvirus-9 (EHV-9) was studied in a hamster model. Five-week-old Syrian hamsters and 5-day-old suckling hamsters were inoculated intraperitoneally with 105 and 4 _ 104 plaque-forming units of EHV-9, respectively. EHV-9 antigens were detected by immunocytochemistry in the peritoneal macrophages, which may be the primary site of virus attachment and propagation at 6 h post inoculation (hpi). At 12 hpi, viral antigen was observed in the abdominal nerves and ganglia (mainly the coeliac ganglia). Virus antigen was detected in the dorsal root (spinal) ganglia, in parts of the spinal cord (particularly the mid-lumbar area) and in the myenteric plexuses at 36, 48 and 72 hpi, respectively. At 96 hpi, virus antigen was detected in the most caudal part of the brain. Polymerase chain reaction conducted on samples of the blood, spinal cord and brain revealed EHV-9 DNA in the spinal cord at 36 hpi and in the blood at 48 hpi and for 4 days after this initial detection. It is suggested that after initial propagation in the abdominal macrophages, EHV-9 infected the abdominal ganglia or myenteric plexuses and then travelled to the brain via the peripheral nerves and spinal cord. Examination of other organs also revealed the presence of EHV-9, suggesting that the virus might infect tissues other than those of the nervous system.

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IMPACT FACTOR=1.945

AN OCULAR INFECTION MODEL USING SUCKLING HAMSTERS INOCULATED WITH EQUINE HERPESVIRUS 9 (EHV-9): KINETICS OF THE VIRUS AND TIME-COURSE PATHOGENESIS OF EHV-9–INDUCED ENCEPHALITIS VIA THE EYES

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ABSTRACT

By using a new member of the neurotropic equine herpesviruses, EHV-9, which induced encephalitis in various species via various routes, an ocular infection model was developed in suckling hamsters. The suckling hamsters were inoculated with EHV-9 via the conjunctival route and were sacrificed after 6, 12, 24, 36, 48, 72, 96, 120, and 144 hours (h) post inoculation (PI). Three horizontal sections of the brains, including the eyes and cranial cavity, were examined histologically to assess the viral kinetics and time-course neuropathological alterations using a panoramic view. At 6 to 24 h PI, there were various degrees of necrosis in the conjunctival epithelial cells, as well as frequent mononuclear cell infiltrations in the lamina propria and the tarsus of the eyelid, and frequent myositis of the eyelid muscles. At 96 h PI, encephalitis was observed in the brainstem at the level of the pons and cerebellum. EHV-9 antigen immunoreactivity was detected in the macrophages circulating in the eyelid and around the fine nerve endings supplying the eyelid, the nerves of the extraocular muscles, and the lacrimal glands from 6 h to 144 h PI. At 96 h PI, the viral antigen immunoreactivity was detected in the brainstem at the level of the pons and cerebellum. These results suggest that EHV-9 invaded the brain via the trigeminal nerve in addition to the abducent, oculomotor, and facial nerves. This conjunctival EHV-9 suckling hamster model may be useful in assessing the neuronal spread of neuropathogenic viruses via the eyes to the brain.

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HISTOL HISTOPATHOL (2012) 27:601-607

IMPACT FACTOR=2.480

EXPRESSION OF PLATELET-DERIVED GROWTH FACTOR AND ITS RECEPTORS IN SPONTANEOUS CANINE HEMANGIOSARCOMA AND CUTANEOUS HEMANGIOMA

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ABSTRACT

Hemangiosarcoma (HSA) is a malignant neoplasia of vascular endothelial cells (ECs). Our previous report on the expression of vascular endothelial growth factor, basic fibroblast growth factor, and their receptors in canine HSA suggested an autocrine/paracrine mechanism of tumor growth. However, the influence of other angiogenic growth factors in canine HSA was not elucidated; therefore, the expression of platelet-derived growth factor (PDGF) and its receptors was investigated by immunohistochemical analysis. Forty-six canine HSAs and 21 canine cutaneous hemangiomas (HAs) were analyzed. For immunohistochemistry, anti-PDGF-BB, anti-PDGFR-□and anti-PDGFR-□antibodies were utilized as primary antibodies. Immunoreactivities were scored as strongly positive (>25% positive neoplastic cells), weakly positive (1–25% positive neoplastic cells), and negative if not staining at all. In cutaneous HA, 33.3% and 57.1% of cases were strongly and weakly positive, respectively, and 43.5% and 13.0% of HSAs were strongly and weakly positive for PDGF-BB, respectively. Moreover,38.1% and 28.6% of cutaneous HAs cases were strongly and weakly positive, respectively, and 23.9% and 4.3% of HSAs cases were strongly and weakly positive, respectively, for PDGFR-□. Thirty-five HSAs cases (76.1%) were strongly positive, and the remaining 11 (23.9%)were weakly positive for PDGFR-β. In contrast, 18 (72.0%) cutaneous HAs were negative, and only 3 cases (12.0%)were weakly positive, for PDGFR-□□he proportion of strongly positive cases of HSAs was significantly higher than that of cutaneous HA for PDGFR-□P □.01),while PDGFR-□was highly expressed in cutaneous HA and may be related to pathogenesis of cutaneous HA. Therefore, PDGFR-□ may be associated with the malignant nature of canine HSA.

TURK. J. VET. ANIM. SCI. 2012; 36(6): 577-584

IMPACT FACTOR=0.236

FIRST RECORD OF MOTHOCYA MELANOSTICTA SCHIOEDTE AND MEINERT, 1884 (ISOPODA: CYMOTHOIDAE) FROM EGYPTIAN PINECONE SOLDIERFI SH WITH SPECIAL REFERENCE TO ITS INFESTATION STATUS

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ABSTRACT

Cymothoidae are cosmopolitan, ubiquitous, and nonspecifi c parasites of fi sh of diff erent biotopes causing a signifi cant economic loss to fi sheries either by killing and stunting or simply by damaging their hosts. Th is study represents the fi rst record of *Mothocya melanosticta* from the Red Sea, with a new host record in *Myripristis murdjan*(pinecone soldierfi sh), the other resident species of the fi sh-parasitic isopod family Cymothoidae in Egypt. The recovered *Mothocya melanosticta* was of moderate body size (17.7 × 8.2 mm) and had a cephalon with widely truncated rostrum, short pleotelson with uropod rami not extending beyond the telson, and the presence of a small rounded protrusion ranging in size from 0.3 to 0.5 mm on the lateral side of pereonite II. Th e overall prevalence was 31.25% and it was only found in the branchial cavity. Th e monthly and seasonal variation in infestation is reported.

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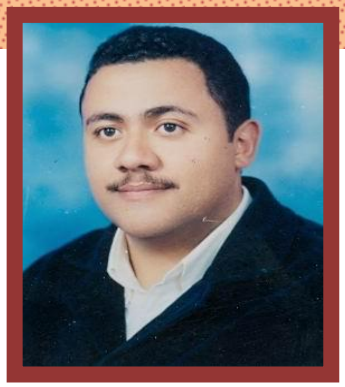
OSTEOPOROS INT (2012) 23:1225-1234

IMPACT FACTOR=4.580



MECHANICAL LOADING – RELATED CHANGES IN OSTEOCYTE SCLEROSTIN EXPRESSION IN MICE ARE MORE CLOSELY ASSOCIATED WITH THE SUBSEQUENT OSTEOGENIC RESPONSE THAN THE PEAK STRAINS ENGENDERED

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ABSTRACT

Osteocyte sclerostin is regulated by loading and disuse in mouse tibiae but is more closely related to subsequent local osteogenesis than the peak strains engendered

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ACTA HISTOCHEMICA 114 (2012) 185– 191

IMPACT FACTOR=1.829

IN SITU HYBRIDIZATION AND IMMUNOHISTOCHEMICAL LOCALIZATION OF LEPTIN HORMONE AND LEPTIN RECEPTOR IN THE SEMINAL VESICLE AND PROSTATE GLAND OF ADULT RAT

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ABSTRACT

The role of leptin in the regulation of male reproductive function is still a matter of debate. Knowledge about a possible source of leptin in the seminal plasma may therefore be helpful in identifying and elucidating the physiological role of leptin hormone in male reproduction. In our investigation, the expression of leptin and its long receptor isoform (Ob-Rb) was studied in adult male Wistar rats using RT-PCR, Southern blot, *in situ* hybridization and immunohistochemistry. RT-PCR analysis revealed the expression of both leptin and its Ob-Rb in the seminal vesicle and prostate gland. *In situ* hybridization also localized the mRNA transcripts of leptin and Ob-Rb in the glandular secretory epithelial cells of prostate gland and seminal vesicle. Immunohistochemistry detected the leptin hormone in the lining epithelium of both male genital glands. In conclusion, these findings suggest that the seminal vesicle and prostate gland could be the possible sources of leptin in the seminal plasma. This leptin might have a direct (paracrine, autocrine or both) effect on epithelial cells of the accessory male genital glands, on the spermatozoa via spermatozoan leptin receptors

VET RES COMMUN (2012) 36:129–138

IMPACT FACTOR= 0.822

MACRO-MICROSCOPIC STUDY ON THE TOEPAD OF OSTRICH (STRUTHIO CAMELUS).

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ABSTRACT

The ostrich foot has four toepads, two on the 3rd digit, one on the 4th digit and one at metatarso-phalangeal joint. Previous studies have not detailed the histo-morphological structure of these toepads. In this study, we have described the macroscopic and microscopic structures of the toepad of ostrich (Struthio camelus). Numerous papillae with different direction, length and thickness have been observed grossly on the ventral surface of each toepad. Histological examinations have revealed that the epidermis of the ostrich toepad, similar to other digitigrades, consists of an outer stratum corneum and an inner stratum germinativum (which is subdivided into basal, intermediate and transitional layers). The stratum corneum has several layers of flattened horny cells. The nuclei of basal cells have several mitotic figures. The cytoplasm of the stratum germinativum cells has multiple lipid droplets and multigranular bodies (in transitional cells only). Scanning electron microscopic examination revealed presence of collagen fibers in mid and deep dermis of each toepad. These fibers run parallel and connect to each other by very thin fibrils which are branched, crossed with each other in an oblique direction. Such arrangement of these collagen fibers, thin fibrils and presence of digital cushion are likely to be responsible for the protection of the underlying soft tissues and absorption of concussion.

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PLOS NEGLECTED TROPICAL DISEASES
JANUARY 2011 ,VOLUME 5 , ISSUE 1 ,944

IMPACT FACTOR=4.716

RUMINANT BRUCELLOSIS IN THE KAFR EL SHEIKH GOVERNORATE OF THE NILE DELTA, EGYPT: PREVALENCE OF A NEGLECTED ZOONOSIS

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ABSTRACT

Brucellosis is a neglected tropical zoonosis allegedly reemerging in Middle Eastern countries. Infected ruminants are the primary source of human infection; consequently, estimates of the frequency of ruminant brucellosis are useful elements for building effective control strategies. Unfortunately, these estimates are lacking in most Middle East countries including Egypt. Our objectives are to estimate the frequency of ruminant brucellosis and to describe its spatial distribution in Kafr El Sheikh Governorate, Nile Delta, Egypt

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FOOD AND CHEMICAL TOXICOLOGY 55 (2013) 578-585

IMPACT FACTOR= 2.999

COMBINED EFFECTS OF ORGANOCHLORINE PESTICIDES HEPTACHLOR AND HEXACHLOROBENZENE ON THE PROMOTION STAGE OF HEPATOCARCINOGENESIS IN RATS

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ABSTRACT

We aimed to investigate the combined effect of organochlorine pesticides heptachlor (HEP) and hexachlorobenzene (HCB) by using a medium-term rat liver bioassay. Male F344 rats were initially administered diethylnitrosamine (DEN, 200mg/kgi.p.); after a 2-week non-dosing period, they were given diets containing HEP (5 or 25ppm), HCB (70 or 350ppm), or their mixtures (5 and 70ppm or 25 and 350ppm) for 6weeks. All rats were subjected to partial hepatectomy at week 3 and killed at week 8. We observed additive or synergistic effects of HEP and HCB in groups treated with mixtures of these pesticides. Number and area of preneoplastic foci positive for glutathione S-transferase placental form (GST-P) were consistently higher in these groups than the sum of individual values in the groups treated with HEP or HCB alone. Consistent with these findings, HEP and HCB had additive or synergistic effects on cell proliferation induction within the preneoplastic foci and cytochrome P450 (CYP) 2B1 and 3A1 induction, which may lead to more efficient metabolic activation of HEP and HCB. On the basis of these findings, we conclude that HEP and HCB have additive and synergistic effects on the development of GST-P-positive foci and that higher risks are associated with a combination of residual organochlorine pesticides in foods than with individual residual organochlorine pesticides

Faculty of Engineering

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JOURNAL OF LUMINESCENCE 132 (2012)1957-1963

IMPACT FACTOR= 2.102

DESIGN AND OPTIMIZATION OF LIGHT EMITTING DEVICE BASED ON CDTE-QD AS AN EMISSIVE LAYER

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ABSTRACT

We present a detailed design method of quantum dot-organic light emitting devices (QD-OLED) based on microcavity model. CdTe quantum dot is used as an emissive layer for blue, green and red emissions. We have simulated the internal photoluminescence emissions of the quantum dot layer by Gaussian function based on the published experimental results. Using these simulated internal photoluminescence emissions for different quantum dot sizes we have calculated the output emissions intensities of blue, green and red lights. We have investigated the effect of changing the device geometry on the emission intensity. We found that the emission intensity is highly depends on the device geometry. On the other hand, we found that the optimizations of the device structure are different for different emissions colors.

Kafrelsheikh University

J NANOPART RES (2013) 15:1341

IMPACT FACTOR=3.287

OPTICAL RESPONSES OF PLASMONIC GOLD NANOANTENNAS THROUGH NUMERICAL SIMULATION

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ABSTRACT

Nanoantennas for visible and infrared radiation can strongly enhance the interaction of light with nanoscale matter by their ability to efficiently link propagating and spatially localized optical fields. Gold nanoparticles are the material that is mostly used experimentally, since it combines a favorable dielectric function in the red and near-IR with excellent chemical stability. So, the gold material is used to build nanoantennas in this research. The optical properties of plasmonic dimer nanoantennas are investigated in detail using the finite integration technique. The validity of this technique is verified by comparison to the exact solution generalized Mie method (GMM). The influence of the geometrical parameters (antenna length, gap dimension, and shapes) on the antenna field enhancement and spectral response is discussed. Localized surface plasmon resonances of Au (gold) dimers nanospheres, bowtie and aperture bowtie nanoantennas are modeled. The enhanced field is equivalent to a strong light spot which can lead to the resolution improvement of the microscopy and optical lithography, thus increasing the optical data storage capacity. Furthermore, the sensitivity of the antennas to index changes of the environment and substrate is investigated in detail for biosensing applications. We confirm that our approach yields an exact correspondence withGMMtheory, for Au dimers nanospheres at gap dimension 5 and 10 nmbut gives an approximation error of less than 1.37 %for gap dimension 1 and 2 nm with diameters approaching 80 nm. In addition, the far-field characteristics of the aperture bowtie nanoantenna such as directivity and gain are studied. The promising results of this study may have useful potential applications in near-field sample detection,

COMPUTERS & FLUIDS 68 (2012) 159–167

IMPACT FACTOR=1.810

NUMERICAL SIMULATION OF HEAT AND MASS TRANSFER IN PNEUMATIC CONVEYING DRYER

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ABSTRACT

Two-dimensional Eulerian–Lagrangian model is presented for heat and mass transfer in pneumatic conveying dryer. The model takes into account the particle–particle and particle–wall collisions, lift forces, particle rotation, turbulence modulation and turbulence dispersion (i.e., four-way coupling). The drying simulation is based on a two-stage drying model. Different correlations for heat transfer coefficient are tested and assessed in terms of their accuracy. The model is validated against the available experimental data and good agreement is obtained. The model predictions are compared to other models from literature and it produces better results than existing models. It is also found that the turbulence dispersion has greater effect on the model predictions than particle–particle collision. However, neglecting either particle particle collision or turbulence dispersion results in a lower heat transfer and drying rates

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INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW 33 (2012) 118–130

IMPACT FACTOR=1.927

NUMERICAL AND EXPERIMENTAL STUDIES OF HEAT TRANSFER IN PARTICLE-LADEN GAS FLOWS THROUGH A VERTICAL RISER

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ABSTRACT

This paper presents numerical and experimental studies of gas–solid flow with heat transfer during pneumatic transport. The experimental work investigates the flow with two different cases of inlet thermal conditions namely; hot gas with cold solid particles, while the second case is cold gas with hot particles. Crushed limestone particles with different sizes are used in the experimental study. The Eulerian Lagrangian approach is utilized to simulate the process under consideration. In the present study, the SIMPLE algorithm is extended to compressible flow. The model takes into account the effects of particle–particle and particle wall collisions, gas phase turbulence modulation and turbulence dispersion (i.e., four-way coupling). The effect of wall roughness is simulated using the virtual-wall model. The model is validated with available published experimental data for high speed gas–solid flow and a good agreement is obtained. Also, the model predictions are found to be in a good agreement with the present experimental measurements. The present results show that pressure drop increases in dilute phase and decreases in dense phase pneumatic conveying when hot particles are introduced in cold gas flow, and an opposite effect is obtained when cold particles is introduced in a hot gas stream. In addition, it is noticed that the equilibrium temperature and the distance required to reach equilibrium are greatly affected by the flow conditions. Furthermore, the present results show that gas–solid flows with heat transfer can be accurately modeled using incompressible ideal gas law for low conveying speed, while for high conveying speed; the full compressible model should be used.

DESALINATION AND WATER TREATMENT 48 (2012) 182 190

IMPACT FACTOR= 0.614

AUGMENTATION OF THE BASIN TYPE SOLAR STILL USING PHOTOVOLTAIC POWERED TURBULENCE SYSTEM

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ABSTRACT

The present paper concerns with enhancing productivity of basin type solar still through experimental investigation. Therefore, two solar stills are designed and constructed to study the performance of two suggested solar desalination systems. The fi rst one is a conventional still and the second is a modifi ed still uses a rotating fan with a vertical shaft. A DC-motor powered by a small photovoltaic (PV) system is used to rotate the fan. The infl uence of the rotational speed of the fan and the depth of saline water on the performance of the still is investigated experimentally. The nexperiments were conducted with fan rotational speeds of 30, 35, 40 and 45 rpm and saline water depths of 1, 3, 5 and 7 cm. The results indicate that the daily productivity of still increases with increasing rotational speed of the fan and the maximum diff erence of daily productivity between fan and conventional solar stills is achieved at depth of saline water of 3 cm (with rotation). Also it is found that using rotating fan in the solar still increases the productivity by 25% at 3 cm and 45 rpm. In this case the daily effi ciency and estimated cost of 1 l of distillate for fan and conventional solar stills are approximately 38%–0.0447$ and 35.5%–0.049$, respectively

DESALINATION 289 (2012) 12–20

IMPACT FACTOR=2.590

THEORETICAL AND EXPERIMENTAL PARAMETRIC STUDY OF MODIFIED STEPPED SOLAR STILL

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ABSTRACT

In this paper, a stepped basin is used to improve the performance of solar still. An experimental as well as theoretical investigation is carried out. Two solar stills are used simultaneously and both use saline water; a conventional single sloped solar still and a modified stepped solar still. The influence of depth and width of trays on the performance of the stepped solar still is investigated. Feed water temperature to the stepped still is varied using a vacuum tube solar collector. For further augmentation of the yield a wick on the vertical sides is added to the stepped still. A good agreement between the experimental and theoretical results is observed. The results show that the productivity of the stepped solar still strongly depends on the tray depth and width. Also it is found that maximum productivity of stepped still is achieved at a tray depth 5 mm and tray width 120 mm, which is about 57.3% higher than that of the conventional still. In this case the daily efficiency and estimated cost of 1 l of distillate for stepped and conventional solar stills are approximately 53%–0.039$ and 33.5%–0.049 $ respectively

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APPLIED MATHEMATICS & INFORMATION SCIENCES – AN INTERNATIONAL JOURNAL, VOL. 5(2) (2011), 108–119

IMPACT FACTOR=0.508

COMPUTER PROGRAMMING FOR CONSTRUCTING MINIMAL SETS AND ALL NORMAL AND REGULAR TOPOLOGIES ON FINITE SETS

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ABSTRACT

In this paper if (X,τ) is a topological space then for each subset A of X a specific subset $A^{\wedge}$ of X called the τ - minimal set at A is defined. These sets are defined and some of their properties are presented. Using these, we characterize the normal principal topological spaces and discuss some properties of the connected topological spaces. Employing these characterizations and properties, we describe an algorithm for enumerating and constructing all minimal sets, regular and normal topologies on
finite sets.

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NUMER ALGOR (2012) 59:373–391

IMPACT FACTOR=1.042

QUADRATIC SPLINE SOLUTION FOR BOUNDARY VALUE PROBLEM OF FRACTIONAL ORDER

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ABSTRACT

Fractional differential equations are widely applied in physics, chemistry as well as engineering fields. Therefore, approximating the solution of differential equations of fractional order is necessary. We consider the quadratic polynomial spline function based method to find approximate solution for a class of boundary value problems of fractional order.We derive a consistency relation which can be used for computing approximation to the solution for this class of boundary value problems. Convergence analysis of the method is discussed. Four numerical examples are included to illustrate the practical usefulness of the proposed method.

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Faculty of Science

INT. J. ELECTROCHEM. SCI., 7 (2012) 7526 - 7546

IMPACT FACTOR= 3.729

SYNTHESIS, CHARACTERIZATION, AND ELECTROCHEMICAL PROPERTIES OF BIS(2 BENZIMIDAZOLYLMETHYL-6-SULFONATE)AMINE-BASED ZINC(II), COPPER(II), AND IDOVANADIUM(IV) COMPLEXES: SOD SCAVENGING, DNA BINDING, AND ANTICANCER ACTIVITIES

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ABSTRACT

The synthesis of a tridentate ligand, bis(2-benzimidazolylmethyl-6-sulfonate)amine H_2SBz is described together with its zinc(II), copper(II), and oxidovanadium(IV) complexes [SBz-M(H_2O)$_2$] (M = Zn^{2+} **1**, Cu^{2+} **2**, and VO^{2+} **3**). The ligand and its metal complexes **1-3** were characterized based on elemental analysis, conductivity measurements, spectral, and magnetic studies. The magnetic and spectroscopic data indicate a square pyramidal geometry is proposed for all complexes. The redox properties of the ligand and its complexes **1-3** were extensively investigated by using cyclic voltammetry. Complexes **1** and **2** exhibited quasi-reversible single electron transfer process. Whereas in complex **3**, only one electron oxidation peak was observed at + 0.72 V, which is due to the oxidation of V^{IV} to V^{V}. The SOD-like activity of complexes **2** and **3** has been investigated and showed that both complexes possess the capability to dismutase the superoxide anion generated in nitrobluetetrazolium/superoxide system. The electrochemical DNA binding studies by using oxidovanadium(IV) complex **3** was investigated and showed that the modified electrode with DNA causes the peak potentials, E_{pc}, and E_{pa} shifted to more positive values. This may be attributed to diffusion of the metal complex bound to the large, slowly diffusing DNA molecule and the resulted peak current due the equilibrium of free and DNA-bound oxidovanadium(IV) complex to the electrode surface. Complexes **2** and **3** were also assessed for their cancer chemotherapeutic potential towards colon cancer cell line (Caco-2) and showed that these complexes have the potential to act as an effective anticancer drug with IC_{50} values of 4.0 and 2.5 M for complexes **2** and **3**, respectively

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IMPACT FACTOR=1.886

THIOIMIDAZOLATE VERSUS PYRAZOLATE-ZINC(II)-BOUND HYDROXO COMPLEX AS STRUCTURAL MODEL FOR THE ACTIVE SITE OF HYDROLYTIC ENZYME: THE CRYSTAL STRUCTURE OF THE INCLUSION COMPLEX TTZN–O–C6H4–P-NO2, TT 5 HYDROTRIS(N-XYLYL-2-THIOIMIDAZOLYL)BORATE

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ABSTRACT

The reaction of the tripod ligand hydrotris(N- (2-methylphenyl)-2-thioimidazol-1 yl) borate, Tt with zinc(II) chloride yielded the chloro complex [TtZn–Cl] 1. The hydrolytic reactivity of its hydroxo complex [TtZn–(l- OH)ZnTt]Cl 2 towards p nitrophenyl acetate was hampered due to the formation of the stable phenolate complex [TtZn–O–Ar–p-NO2] 3 as a product inhibition. The X-ray structure analysis of complex 3 was determined and showed that its Zn[S3O] coordination sphere includes three thione donors from the ligand Tt and one oxygen donor from the hydrolysed product p-nitrophenolate in an ideally tetrahedral arrangement around the zinc(II) centre.

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Kafrelsheikh University

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SYNTHESIS, CHARACTERIZATION, AND ANTIMICROBIAL ACTIVITIES OF BARBITAL-BASED ALKALINE EARTH METAL COMPLEXES: THE X-RAY CRYSTAL STRUCTURE OF [BA2H(BARB)5] (BARB)5,5-DIETHYL BARBITURATE

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ABSTRACT

Three barbital-based alkaline earth metal complexes, [Ca(Barb)2] _ 3H2O (1), [Ba2H(Barb)5] (2) and [Mg(Barb)2] _ 2H2O (3) (Barb¼5,5-diethyl barbiturate sodium salt), were synthesized and characterized with elemental analysis, thermal analysis, and infrared, Raman, ultraviolet, and NMR (1H and 13C) spectroscopies. Single-crystal X-ray diffraction studies reveal that 2 is a dimer. Each barium(II) is surrounded by an O7N2 donor set in an approximate monocapped square antiprism with Ba–O distances ranging from 2.6512(14) to 2.9168(15)A ˚ and Ba–N distances of 2.7601(15) and 3.2558(17)A ˚ . The complex forms polymeric networks in the solid state with different coordinating abilities of O and N donors and N–H_ _ _O hydrogen bonds.= The antimicrobial activities of 1–3 were observed against different gram-positive and gramnegative bacteria, yeast, and molds. Variable antimicrobial activity against the different bacteria strains was observed and compared with that of standard antibiotics; minimum inhibitory concentration values ranged from 22 to 170 mgmL_1 for bacteria.

C. R. CHIMIE 14 (2011) 429–433

IMPACT FACTOR=1.803

PIT INITIATION AND GROWTH CONTROL OF AL IN KSCN SOLUTIONS

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ABSTRACT

The inhibitive action of a newly synthesized glycine derivative, namely 2-(4- (dimethylamino)benzylamino)acetic acid hydrochloride (GlyD) on pitting corrosion of Al in KSCN solutions was studied. Obtained results were compared with glycine (Gly) itself. Cyclic polarization, potentiostatic and galvanostatic measurements were made, complemented with ex situ scanning electron microscope (SEM) examinations. Cyclic polarization measurements indicated that the presence of Gly and GlyD in aggressive SCNsolutions shifted the pitting potentials to more noble values and decreased the anodic currents in the passive region. Transient studies showed that nucleation of pit takes place after an incubation time (ti). The rate of pit nucleation (ti _1) and growth was found to decrease to an extent depending on the type inhibitor. The SEM images showed that the severity of the pitting corrosion of Al in KSCN solution decreased to an extent depending on type of inhibitor. GlyD was much better than Gly in controlling pit initiation and growth of Al in these solutions

CORROSION SCIENCE 53 (2011) 873–885

IMPACT FACTOR=3.734

CORROSION AND CORROSION CONTROL OF MILD STEEL IN CONCENTRATED H2SO4 SOLUTIONS BY A NEWLY SYNTHESIZED GLYCINE DERIVATIVE

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ABSTRACT

A newly synthesized glycine derivative (GlyD1), 2-(4 (dimethylamino)benzylamino)acetic acid hydrochloride, was used to control mild steel corrosion in 4.0 M H2SO4 solutions at different temperatures (278–338 K). Tafel extrapolation, linear polarization resistance (LPR) and impedance methods were used to test corrosion inhibitor efficiency. An independent method of chemical analysis, namely ICP-AES (inductively coupled plasma atomic emission spectrometry) was also used to test validity of corrosion rate measured by Tafel extrapolation method. Results obtained were compared with an available glycine derivative (GlyD2) and glycine (Gly). Tafel polarization measurements revealed that the three tested inhibitors function as mixed-type compounds. The inhibition efficiency increased with increase in inhibitor concentration and decreased with temperature, suggesting the occurrence of physical adsorption. The adsorptive behaviour of the three inhibitors followed Temkin-type isotherm and the standard free energy changes of adsorption (DGo ads) were evaluated for the three tested inhibitors as a function of temperature. The inhibition performance of GlyD1 was much better than those of GlyD2 and Gly itself. Results obtained from the different corrosion evaluation techniques were in good agreement.

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IMPACT FACTOR=0.513

SYNTHESIS, SPECTROSCOPIC, THERMAL AND ELECTRICAL CONDUCTIVITY STUDIES OF THREE CHARGE TRANSFER COMPLEXES NFORMED BETWEEN 1,3 DI[(*E*)-1-(2 HYDROXYPHENYL) METHYLIDENEAMINO]-2-PROPANOL SCHIFF BASE AND DIFFERENT ACCEPTORS

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Taif, Saudi Arabia. Published in Zhurnal Prikladnoi Spektroskopii, Vol. 78, No. 6, pp. 830–838, November–December, 2011. Original article submiited February 28, 2011.

ABSTRACT

Charge-transfer complexes (CTC) resulting from interactions of 1,3-di[(E)-1-(2-hydroxyphenyl) methylideneamino]- 2-propanol Schiff base with some acceptors such as iodine (I2), bromine (Br2), and picric acid (PiA) have been isolated in the solid state in a chloroform solvent at room temperature. Based on elemental analysis, UV Vis, infrared, and 1H NMR spectra, and thermogravimetric analysis (TG/DTG) of the solid CTC, [(Schiff)(I2)] (1), [(Schiff)(Br2)] complexes with a ratio of 1:1 and [(Schiff)(PiA)3] complexes with 1:3 have been prepared. In the picric acid complex, infrared and 1H NMR spectroscopic data indicate that the chargetransfer interaction is associated with a hydrogen bonding, whereas the iodine and bromine complexes were interpreted in terms of the formation of dative ion pairs [Schiff˙ , I2 ·−] and [Schiff˙ , Br2 ·−], respectively. Kinetic parameters were obtained for each stage of thermal degradation of the CT complexes using Coats–Redfern and Horowitz–Metzger methods. DC electrical properties as a function of temperature of these charge transfer complexes have been studied

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IMPACT FACTOR=1.803

SOLUTION STUDIES OF TRIS(2-BENZYLAMINOETHYL)AMINE COMPLEXES OF ZINC(II) AND COPPER(II): THE CATALYTIC HYDROLYSIS OF TOXIC ORGANOPHOSPHATE

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ABSTRACT

Solution studies of the tetradentate ligand tris(2- benzylaminoethyl)amine, BzTren with both zinc(II) and copper(II) salts were investigated in aqueous methanol (33% v/v) by means of 1H NMR, potentiometric, and UV-visible titrations as well as cyclic voltammetry. Subsequently, their zinc(II) and copper(II) complexes [BzTren M(OH2)]2+ 1 and 2 (M2+ = Zn2+ and Cu2+) were synthesized and fully characterized by using FT-IR spectroscopy, elemental analysis, and thermal analysis. Complexes 1 and 2 are investigated kinetically for the catalytic hydrolysis of the toxic organophosphate parathion at 50 8C in aqueous methanol (33%, v/v). The kinetic results indicate that copper(II) complex 2 is more active than zinc(II) complex 1, presumably a reflection of the effective electron-withdrawing as well as the greatest electrophilicity of copper (II) ion

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PHYS. CHEM. CHEM. PHYS., 2012, 14, 3612–3621

IMPACT FACTOR=3.573

LIGHT HARVESTING ZINC NAPHTHALOCYANINE–PERYLENEDIIMIDE SUPRAMOLECULAR DYADS: LONG-LIVED CHARGE-SEPARATED STATES IN NONPOLAR MEDIAW

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ABSTRACT

Photoinduced electron-transfer dynamics of self-assembled donor–acceptor dyads formed by axial coordination of zinc naphthalocyanine, ZnNc, and perylenediimide (PDI) bearing either pyridine (py) or imidazole (im) coordinating ligands were investigated. The PDIim unit was functionalized with tertoctylphenoxy groups at the bay positions, which avoid aggregation providing solubility, to examine the effect of the bulky substituents at the bay positions on the rates of electron-transfer reactions. The combination between zinc naphthalocyanine and perylenediimide entities absorbs light over a wide region of the visible and near infrared (NIR) spectrum. The binding constants of the self-assembled ZnNc:PDIpy (1) and ZnNc:PDIim (2) in toluene were found to be 2.40 _ 104 and 1.10 _ 105 M_1, respectively, from the steady-state absorption and emission measurements, indicating formation of moderately stable complexes. The geometric and electronic calculations by using an ab initio B3LYP/6 311G method showed the majority of the highest occupied frontier molecular orbital (HOMO) on the zinc naphthalocyanine entity, while the lowest unoccupied molecular orbital (LUMO) was on the perylenediimide entities, suggesting that the charge-separated states of the supramolecular dyads are ZnNc_+:PDI__. The electrochemical results suggest the exothermic charge-separation process via the singlet states of both ZnNc and PDI entities in nonpolar toluene. Upon coordination of perylenediimide to ZnNc, the main quenching pathway involved charge separation via the singlet-excited states of ZnNc and PDIs. Clear evidence of the intramolecular electron transfer from the singlet-excited state of ZnNc to PDI within the supramolecular dyads in toluene was monitored by the femtosecond laser photolysis by observing the characteristic absorption band of the PDI radical anion (PDI__) and the ZnNc radical cation (ZnNc_+) in the visible and NIR regions. The rate constants of charge-separation (kCS) processes of the self-assembled dyads 1 and 2 were determined to be 4.05 _ 1010 and 1.20 _ 109 s_1, respectively. The rate constant of charge recombination (kCR) and the lifetime of charge-separated states (tCS) of dyad 1 were determined to be 2.34 _ 108 s_1 and 4.30 ns, respectively. Interestingly, a slower charge recombination (2.20 _ 107 s_1) and a longer lifetime of the charge separated state (45 ns) were observed in dyad 2 in nonpolar toluene by utilizing the nanosecond transient measurements. The absorption in awide section of the solar spectrum and the high charge-separation/charge-recombination ratio suggest the usefulness of the self-assembled zinc naphthalocyanine–perylenediimide dyads as good photosynthetic models.

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IMPACT FACTOR= 4.805

SUBPHTHALOCYANINES AS LIGHT-HARVESTING ELECTRON DONOR AND ELECTRON ACCEPTOR IN ARTIFICIAL PHOTOSYNTHETIC SYSTEMS

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ABSTRACT

Light harvesting subphthalocyanine-ferrocenophane (subpc-fc; 1) and subphthalocyanine-naphthalenediimide (subpc-ndi; 2) dyads have been synthesized, characterized, and probed by femtosecond laser photolysis. In dyads 1 and 2, both of the electron-donating ferrocenophane and the electron-accepting naphthalenediimide are axially linked with the functional o-ph groups (at the para position) in the axial positions of subpc. Electrochemical data show that the subpcs can act both electron donors and acceptors. The geometric and electronic structures of the dyads 1 and 2 were calculated by ab initio b3lyp/6-311g methods. The optimized structures showed that the fc and ndi entities are separated from subpc by 8.32 å (for dyad 1) and 8.85 å (for dyad 2). The distribution of homos and lumos suggest the formation of subpc•−-fc+ and subpc•+-ndi•− as charge-separated states for dyads 1 and 2, respectively. Upon photoexcitation of the subphthalocyanine unit, these arrays undergo photoinduced electron transfer to form the corresponding charge-separated species, subpc•—fc+ and subpc•+ –ndi•− in which subpc acts as an electron acceptor and an electron donor, respectively as expected from their redox potentials determined by cyclic voltammetry. Femtosecond transient spectroscopic studies have revealed that a fast charge separation (1011~1012 s-1) occurs for dyads 1 and 2. From the kinetic studies, the rate of charge recombination and the lifetime of the charge-separated state (subpc•+–ndi•−) were found to be 2.9 × 109 s-1 and 345 ps, respectively

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IMPACT FACTOR= 3.412

PHOTOINDUCED ELECTRON TRANSFER IN ZI NAPHTHALOCYANINE–NAPHTHALENEDIIMIDE SUPRAMOLECULAR DYADS

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ABSTRACT

Photoinduced electron transfer is studied in self-assembled donor-acceptor dyads formed by axial coordination of pyridine appended with naphthalenediimide (NDI) to zinc naphthalocyanine (ZnNc). The NDI-py:ZnNc (**1**) and NDI(CH_2)$_2$-py:ZnNc (**2**) self-assembled dyads absorb the light over a wide region of the UV/Vis/NIR spectrum. The formation constants of the dyads **1** and **2** in toluene were found to be 2.5×10^4 and 2.2×10^4 M^{-1}, respectively, from the steady-state absorption and emission measurements, suggesting moderately stable complex formation. Fluorescence quenching is observed upon coordination of the pyridine appended NDI to ZnNc, in toluene. The energy-level diagram, derived from electrochemical and optical data suggests that exothermic charge separation via the singlet state of ZnNc (^{1}ZnNc*) provides the main quenching pathway. Clear evidence of charge separation process from the singlet state of ZnNc to NDI is provided by femtosecond laser photolysis measurements of the characteristic absorption bands of the ZnNc radical cation in the NIR region at 960 nm and the NDI radical anion in the visible region. The rates of charge-separation of **1** and **2** were found to be 2.2×10^{10} and 4.4×10^9 s^{-1}, respectively, indicating fast and efficient charge separation. The rates of charge recombination and the lifetimes of the charge-separated states were found to be 8.50×10^8 s^{-1} (1.2 ns) for **1** and 1.90×10^8 s^{-1} (5.3 ns) for **2**. These values indicate that the rates of charge-separation and charge-recombination processes decrease as the length of spacer increases. Their absorption over a wide portion of the solar spectrum and high ratio of the charge-separation/charge-recombination rates suggests that the self-assembled NDI-py:ZnNc and NDI(CH_2)$_2$-py:ZnNc dyads are useful as photosynthetic models.

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IMPACT FACTOR=3.412

PHOTOINDUCED ELECTRON TRANSFER IN A FERROCENE–DISTYRY BODIPY DYAD AND A FERROCENE–DISTYRYL BODIPY–C60 TRIAD**

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ABSTRACT

A ferrocene-distyryl BODIPY dyad and a ferrocene-distyryl BODIPY-C_{60} triad have been synthesized and characterized. Upon photoexcitation at the distyryl BODIPY unit, these arrays undergo photoinduced electron transfer to form the corresponding charge-separated species. Based on their redox potentials determined by cyclic voltammetry, the direction of the charge separation and the energies of these states have been revealed. Femtosecond transient spectroscopic studies have revealed that a fast charge separation (k_{CS} = 1.0 × 10^{10} s^{-1}) occurs for both the ferrocene-distyryl BODIPY dyad and ferrocene-distyryl BODIPY-C_{60} triad but that a relatively slow charge recombination is observed only for the triad. The lifetime of the charge-separated state ($_{CS}$) is 500 ps. Charge recombination of the dyad and triad leads to population of the triplet excited sate of ferrocene and the ground state, respectively.

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CHEM. EUR. J. 2012, 18, 13844 – 13853

IMPACT FACTOR=5.925

ULTRAFAST PHOTOINDUCED ENERGY AND ELECTRON TRANSFER IN MULTI-MODULAR DONOR–ACCEPTOR CONJUGATES

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ABSTRACT

New multi-modular donor– acceptor conjugates featuring zinc porphyrin (ZnP), catechol-chelated boron dipyrrin (BDP), triphenylamine (TPA) and fullerene (C60), or naphthalenedi- ACHTUNGTRENUNGimide (NDI) have been newly designed and synthesized as photosynthetic antenna and reaction-center mimics. The X-ray structure of triphenylamine-BDP is also reported. The wide-band capturing polyad revealed ultrafast energytransfer (kENT=1.0_1012 s_1) from the singlet excited BDP to the covalently linked ZnP owing to close proximity and favorable orientation of the entities. Introducing either fullerene or naphthalenediimide electron acceptors to the TPA-BDP-ZnP triad through metal–ligand axial coordination resulted in electron donor–acceptor polyads whose structures were revealed by spectroscopic, electrochemical and computational studies. Excitation of the electron donor, zinc porphyrin resulted in rapid electron-transfer to coordinated fullerene or naphthalenedi- ACHTUNGTRENUNGimide yielding charge separated ionpai species. The measured electron transfer rate constants from femtosecond transient spectral technique in= non-polar toluene were in the range of 5.0_109–3.5_1010 s_1. Stabilization of the charge-separated state in these multi-modular donor–acceptor polyads is also observed to certain level.

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CHEM. EUR. J. 2011, 17, 1605 – 1613

IMPACT FACTOR=5.925

MIMICKING PHOTOSYNTHETIC ANTENNA-REACTION-CENTER COMPLEXES WITH (BORON DIPYRROMETHENE)3–PORPHYRIN–C60 PENTAD

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ABSTRACT

A highly efficient functional mimic of the photosynthetic antennareaction- center complexes has been designed and synthesized. The model contains a zinc(II) porphyrin (ZnP) core, which is connected to three boron dipyrromethene (BDP) units by click chemistry, and to a C60 moiety usin the Prato procedure. The compound has been characterized using various spectroscopic methods. The intramolecular photoinduced processes of this pentad have also been studied in detail with steady state and time-resolved absorption and emission spectroscopic methods, both in polar benzonitrile and nonpolar toluene. The BDP units serve as the antennae, which upon excitation undergo singlet–singlet energy transfer to the porphyrin core. This is then followed by an efficient electron transfer to the C60 moiety, resulting in the formation of the singlet charge-separated state (BDP)3–ZnPC+–C60C_, which has a lifetime of 476 and 1000 ps in benzonitrile and toluene, respectively. Interestingly, a slow charge-recombination process (Kt CR=2.6_106 s_1) and a longlived triplet charge separated state (tT CS=385 ns) were detected in polar benzonitrile by nanosecond transient measurements

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IMPACT FACTOR=4.805

ANNULATION OF TETRATHIAFULVALENE TO THE BAY REGION OF PERYLENEDIIMIDE: FAST ELECTRON-TRANSFER PROCESSES IN POLAR AND NONPOLAR SOLVENTS

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ABSTRACT

A tetrathiafulvalene donor has been annulated to the bay region of perylenediimide through a 1H-benzo-[d]pyrrolo[1,2-a]imidazol-1-one spacer affording an extended π conjugated molecular dyad (TTF_PDI). To gain insight into its ground- and excited state electronic properties, the reference compound Ph-PDI has been prepared via a direct Schiff-base condensation of N,N0-bis(1-octylnonyl) benzoperylene 10,20:3,4:9,10-hexacarboxylic-10,20-anhydride-3,4:9,10-bis(imide) with benzene-1,2-diamine. Both the experimental and the computational (DFT) results indicate that TTF_PDI exhibits significant intramolecular electronic interactions giving rise to an efficient photoinduced charge-separation process. Free-energy calculations verify that the light-induced process from TTF to the singlet-excited state of PDI is exothermic in both polar and nonpolar solvents. Fast adiabatic electron-transfer processes of a compactly fused, π-conjugated TTF_PDI dyad in benzonitrile, 2 methyltetrahydrofuran, anisole and toluene were observed by femtosecond transient absorption spectral measurements. The lifetimes of radical-ion pairs slightly increase with decreasing the solvent polarities, suggesting that the charge-recombination occurs in the Marcus inverted region. By utilizing the nanosecond transient absorption technique, the intermolecular electron-transfer process in a mixture of TTF-diamine/Ph-PDI has been observed via the triplet excited PDI for the first time

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J. PHYS. CHEM. 2011, 115, 15040–15047

IMPACT FACTOR=4.805

ELECTRON DELOCALIZATION IN ONE-DIMENSIONAL PERYLENEDIIMIDE NANOBELTS THROUGH PHOTOINDUCED ELECTRON TRANSFER

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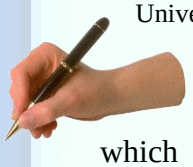

ABSTRACT

Photoinduced electron transfer (PET) of a hybrid system comprising N,N0 ditridecylperylenediimide (LPDI), which forms nanobelt structures of the form (LPDI)n, and soluble zinc (tetra-tert-butyl)phthalocyanine (ZnTBPc) has been investigated in polar benzonitrile. The PET of a mixture system comprising N,N0 diheptadecan-9-ylperylenediimide (BPDI) dissolved thoroughly in benzonitrile and ZnTBPc was also examined for comparison. LPDI nanobelt structures were identified using steady-state absorption and emission spectroscopies, as well as dynamic light scattering (DLS), in suspension and detected using scanning electron microscopy (SEM) and transmission electron microscopy (TEM) in the solid state. The electron paramagnetic resonance (EPR) spectrum of the radical anion of LPDI nanobelts [(LPDI)n was quite different from that of BPDI (BPDI•_) because of enhanced electron delocalization within the one-dimensional LPDI aggregates. Polar benzonitrile enables intermolecular light-induced electron transfer from the low-lying triplet state of ZnTBPc to the LPDI nanobelts through its stabilization effect on the electron-transfer species, as indicated by free energy calculations. Nanosecond transient absorption spectra displayed marked broadening of the radical anion peak of LPDI nanobelts in the near-infrared (NIR) region upon excitation, confirming the delocalization of the transferred electron within the nanostructure. Whereas both the hybrid and mixture systems have nearly the same rate constants (ket) of PET from the PDIs to ZnTBPc, the rate of back electron transfer (kbet) of (LPDI)n ·_/ZnTBPc·+ is lower than that of BPDI·_/ZnTBPc·+, which might result from the effect of electron delocalization within the Nano belt structure.

JOURNAL OF PORPHYRINS AND PHTHALOCYANINES
J. PORPHYRINS PHTHALOCYANINES 2011; 16: 111–117

IMPACT FACTOR=1.405

LIGHT HARVESTING PHTHALOCYANINE/SUBPHTHALOCYANINE SYSTEM: INTERMOLECULAR ELECTRON-TRANSFER AND ENERGY-TRANSFER REACTIONS *VIA* THE TRIPLET SUBPHTHALOCYANINE

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ABSTRACT

Photoinduced electron transfer from the electron-donating zinc tetra-*tert*-butylphthalocyanine, ZnTBPc, to the electron-accepting dodecafluorosubphthalocyanine, SubPcF12, in the polar benzonitrile has been investigated with nanosecond laser photolysis method. The examined ZnTBPc/SubPcF12 mixture absorbs the light in a wide section of the UV/vis/NIR spectra. Owing to the particular electronic properties of both entities, such combination seems to be perfectly suited for the study of intermolecular electron transfer process in the polar solvents *via* the triplet-excited state of SubPcF12. Upon excitation of SubPcF12 with 570 nm laser light in polar benzonitrile (εs = 25.2), the electron transfer from ZnTBPc to the triplet-excited state of SubPcF12 was confirmed by observing the transient absorption bands of ZnTBPc radical cation and SubPcF12 radical anion in the visible and near-IR region. On addition of an appropriate electron acceptor with excellent electron-accepting properties, namely dicyanoperylene-3,4,9,10-bis(dicarboximide) (PDICN2), the anion radical of SubPcF12 transfers to the PDICN2 yielding the PDICN2 radical anion. These observations confirm the photosensitized electron-transfer/electronmediating cycle of ZnTBPc/SubPcF12/PDICN2 system. In non-polar toluene (εs = 2.2), the energytransfer process from the triplet-excited state of SubPcF12 to the low-lying triplet state of ZnTBPc was confirmed by the consecutive appearance of the triplet ZnTBPc.
[a]

Journal of Photochemistry and Photobiology A: Chemistry 218 (2011) 17–25 CHEMISTRY 218 (2011) 17–25

IMPACT FACTOR=2.421

PHOTOINDUCED ENERGY-TRANSFER AND ELECTRON-TRANSFER PROCESSES IN MOLECULES OF TETRAKIS((E)-2-(50-HEXYL-2,20-BITHIOPHEN-5-YL)VINYL)BENZENE AND PERYLENEDIIMIDE

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ABSTRACT

Photoinduced energy- and electron-transfer processes of donor-_-acceptor molecules composed of [1,2,4,5-tetrakis((E)-2-(50-hexyl-2,20-bithiophen-5-yl)vinyl)benzene] (HPBT) with one, two and four entities of perylenediimide (PDI) forming HPBT PDIn (n = 1, 2 and 4) have been examined in this article by utilizing steady-state absorption and emission, computational, electrochemical and time-resolved transient absorption studies. The HPBT–PDIn molecules are connected through long non conjugated _-bonds that may prevent the direct overlap of HPBT and PDI energy levels. Electrochemical studies suggest the exothermic photoinduced electron transfer processes when HPBT and PDI are selectively excited. Upon excitation the HPBT entity, the steady-state emission and femtosecond transient absorption measurements of HPBT–PDIn revealed an efficient energy transfer from the singlet excited HPBT to PDI with time constants on the order of ~1010 s−1. The energy donor–acceptor distance, r =~22A˚ , is calculated from the experimental energy transfer rates using Forster theory and from the MO calculations using ab initio B3LYP/6-311G method. By selective excitation the PDI entity, the electron-transfer processes take place from HPBT to the singlet excited PDI with time constants on the order of ~108 s−1. The slow rates of electron transfer and energy transfer processes indicated that these molecules tend to take conformations with relatively long distance between HPBT and PDI entities.

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INORG. CHEM. 2011, 50, 671–678

IMPACT FACTOR= 4.601

SADDLE DISTORTION OF A STERICALLY UNHINDERED PORPHYRIN RING IN A COPPER PORPHYRIN with Electron-Donating Substituents

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ABSTRACT

Two crystalline porphyrins, CuT(40-OMePh)P (1) and H2T(40-OMePh)P (2) (T(40-OMePh)P2- = 5, 10, 15,20- tetrakis(4-methoxyphenyl)-21H,23H-porphyrin dianion), have been synthesized and characterized by a single-crystal X-ray diffraction. Compound 1 is crystallized in the orthorhombic system with a space group of Pna21, but compound 2 is crystallized in the monoclinic system with a space group of P2/c. Compound 1 is characterized as an isolated structure with a saddle-distorted nonplanar porphyrin macrocycle and an embedded cupric ion coordinating to four pyrrole nitrogen atoms. Nonmetalated compound 2 also displays an isolated structure, but the macrocycle of porphyrin is close to a perfect plane. The molecules in 2 are interconnected through five C-H 3 3 3 π hydrogen bonding interactions to yield a 3-D supramolecular network. However, the molecules in 1 are interlinked via five C-H 3 3 3 π interactions and two C-H 3 3 3 O hydrogen bonding interactions to yield a more complex 3-D supramolecular motif. The two more C-H 3 3 3 O hydrogen bonding interactions are attributed to the distortion of porphyrin macrocycle, resulting from themetalation. Themetalation brought changes not only in the crystal structures and supramolecularmotifs but also in the properties. The photophysical and redox properties of 1 and 2 in solution have also been studied by steady-state absorption and fluorescence, cyclic voltammetry, fluorescence lifetime and nanosecond transient
absorption techniques.

CHEM. ASIAN J. 2011, 6, 174 – 179

IMPACT FACTOR=4.500

PHOTOINDUCED ELECTRON TRANSFER IN A DISTYRYL BODIPY–FULLERENE DYAD

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ABSTRACT

A novel distyryl BODIPY–fullerene dyad is prepared. Upon excitation at the distyryl BODIPY moiety, the dyad undergoes photoinduced electron transfer to give a charge separated state with lifetimes of 476 ps and 730 ps in polar (benzonitrile) and nonpolar (toluene) solvents, respectively. Transient absorption measurements show the formation of the triplet excited state of distyryl BODIPY in the dyad, which is populated from charge-recombination processes in both solvents.

J. PHYS. CHEM. 2011, 115, 14430–14437

IMPACT FACTOR=2.946

ELONGATION OF LIFE TIME OF THE CHARGE-SEPARATED STATE OF FERROCENE_NAPHTHALENEDIIMIDE [60]FULLERENE TRIAD VIA STEPWISE ELECTRON TRANSFE

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ABSTRACT

Photoinduced electron-transfer processes of a newly synthesized rodlike covalently linked ferrocene_naphthalenediimide_[60]fullerene (Fc_ NDI_C60) triad in which Fc is an electron donor and NDI and C60 are electron acceptors with similar first one electron reduction potentials have been studied in benzonitrile. In the examined Fc_NDI_C60 triad, NDI with high molar absorptivity is considered to be the chromophore unit for photoexcitation. Although the free-energy calculations verify that photoinduced charge-separation processes via singlet- and triplet-excited states of NDI are feasible, transient absorption spectra observed upon femtosecond laser excitation of NDI at 390 nm revealed fast and efficient electron transfer from Fc to the singletexcited state of NDI (1NDI*) to produce Fc+_NDI•__C60. Interestingly, this initial charge-separated state is followed by a stepwise electron transfer yielding Fc+_NDI_C60 •_. As a result of this sequential electron-transfer process, the lifetime of the chargeseparated state (τCS) is elongated to 935 ps, while Fc+_NDI•_ has a lifetime of only 11 ps.

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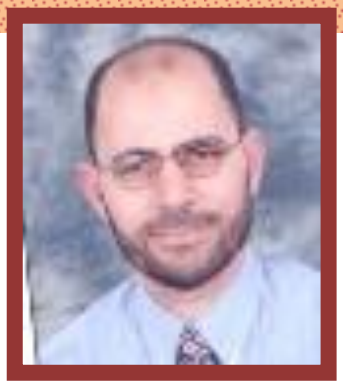
INORGANIC CHEMISTRY COMMUNICATIONS
20 (2012) 135–137

IMPACT FACTOR=1.972



TITANIUM ISOPROPOXIDE COMPLEXES CONTAINING DIAMINE BIS-THIOLATO BASED [N2S2]2− LIGANDS; EFFECT OF STERIC BULK ON COORDINATION FEATURES

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ABSTRACT

Two dianionic amine bis(thiolato) ligands are introduced and their reactionswith titaniumtetra(iso-propoxide) studied; ligand N2H2S2\H2 (1) having NH donor groups leads exclusively to dinuclear [{Ti(N2H2S2)(OiPr)}2] (2) along with an oxidation product of the ligand (3) whereas ligand N2Me2S2\H2 (4) having an additional Nsubstituent leads exclusively to a mononuclear [Ti(N2Me2S2)(OiPr)2)] (5) type complex.

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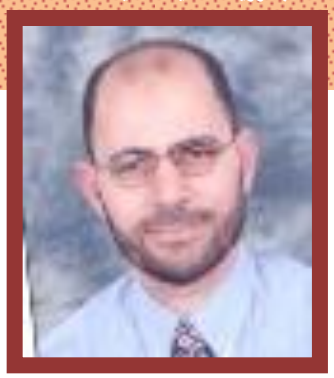
Journal of Coordination Chemistry
Vol. 65, No. 6, 20 March 2012, 934–944

IMPACT FACTOR=1.547



SEVEN-COORDINATE IRON(II) COMPLEXES OF SULFUR-BASED N3S2-MACROCYCLIC LIGANDS: SYNTHESIS, PROPERTIES, AND CRYSTAL STRUCTURE

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ABSTRACT

The reaction of pyridine-2,6-dicarbaldehyde or 2,6-diacetylpyridine with 1,2-bis(oaminophenylthio) ethane (1) in acetonitrile in the presence of stoichiometric amounts of iron(II) perchlorate gave the complexes [(pyN3S2)FeII(ClO4)2] (4) and [(pyN3Me2S2) FeII(ClO4)2] (5) of the 15-membered N3S2 macrocyclic ligands, pyN3S2^{6,7-dihydro-15,19-nitrilobenzo(e,p)(1,4,7,15)dithiadiazacyclo heptadecine N,N0,N00,S,S0} and pyN3Me2S2¼{6,7-dihydro-16,18-dimethyl-15,19 nitrilobenzo(e,p)(1,4,7,15)dithiadiazacyclo-heptadecine-N,N0,N00, S,S0}, respectively. Physical measurements led to the conclusion that these complexes contained seven-coordinate iron(II) and a single-crystal X-ray examination of 4 confirmed this. Coordination of the Fe(II) center in 4 is best described as distorted pentagonal-bipyramidal with the three nitrogen atoms and two sulfur donors of the macrocycle defining the pentagonal plane and the perchlorate ions occupying axial positions. Room temperature (293 K) magnetic moments of 4 and 5 (_eff¼4.9 and 4.7 B.M., respectively) are close to the value predicted for high-spin d6 systems.

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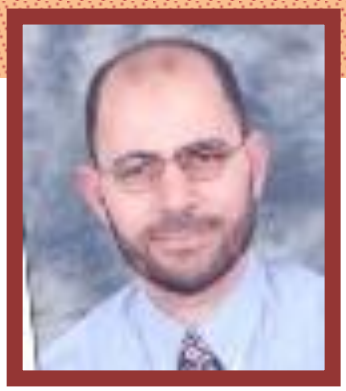
JOURNAL OF COORDINATION CHEMISTRY,
VOL. 65, NO. 14, 20 JULY 2012, 2415–2431

IMPACT FACTOR=1.547



STRUCTURAL AND CATALYTIC ASPECTS OF COPPER(II) COMPLEXES CONTAINING 2,6-BIS(IMINO)PYRIDYL LIGANDS

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ABSTRACT

The synthesis, structure, and ligand substitution mechanism of a new five-coordinate trigonalbipyramidal copper(II) complex, [CuII(pytBuMe2N3)Cl2] (1), with asterically constrained pytBuMe2N3 chelate ligand, pytBuMe2N3¼2,6-bis-(ketimino)pyridyl, are reported. The kinetics and mechanism of chloride substitution by thiourea, as a function of nucleophile concentration, temperature, and pressure, were studied in detail and compared with an earlier study reported for the analogous complex [CuII(pytBuN3)Cl2] (2) [pytBuN3¼2,6-bis-(aldimino)pyridyl]. Catalysis of the oxidation of 3,5-di-tert-butylcatechol to 3,5-di-tert-butylquinone by 1 and 2 was studied. Correlations between the reactivity, chloride substitution behavior, and reduction potentials of both complexes were made. These show that the rate of oxidation is independent of the rate of chloride substitution, indicating that the substitution of chloride by catechol as substrate occurs in a fast step. Spectral data show a non-linear relationship between the ability of the complexes to oxidize 3,5-DTBC and the Lewis acidity of their copper(II) centers. Electrochemical data demonstrate that the most effective complex 1 has a E0 value that approaches the E0 value of the natural tyrosinase enzyme.

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MACROMOLECULAR RESEARCH VOL.20, NO.,4
PP407-414 (2012)

IMPACT FACTOR=1.153

SUSTAINED- RELEASE OF FLUTAMIDE FROM RADIATION CROSSLINKED POLY(4-ACRYLOY MORPHOLINE- ACRYLIC ACID) HYDROGELS

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ABSTRACT

The present work reports the effect of radiation cross-linking on aqueous solution of 4-acryloyl morpholine (ACMO)/acrylic acid (AA) in the presence of flutamide (FLT), an anticancer drug. Use of a γ-irradiation process within 5 kGy provided an insoluble hydrogel. Ultraviolet-visible absorption, fluorescence spectroscopy, and Fourier transform infrared spectroscopy were employed to study the complex formation of FLT with ACMO and AA. The ability of the prepared ACMO/AA-based hydrogels to be used as drug carriers for anticancer-specific drug delivery system was estimated using FLT as a model drug. *In vitro* drug release studies in a pH 7 buffer solution show that 20%–30% of the FLT was continuously released from the FLT-incorporated ACMO/AA hydrogel within 1 day, followed by a gradual release upon 7 days under *in vitro* non-degradation hydrogel conditions. The recognition affinity of the ACMO/AA/FLT hydrogel is increased when synthesized in a high-concentration template solution.

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JOURNAL OF MECHANICS, VOL. 28, NO. 3, SEPTEMBER 2012

IMPACT FACTOR=0.325

ELASTIC FOUNDATION ANALYSIS OF UNIFORMLY LOADED FUNCTIONALLY GRADED VISCOELASTIC SANDWICH PLATES

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ABSTRACT

This paper deals with the static response of simply supported functionally graded material (FGM) viscoelastic sandwich plates subjected to transverse uniform loads. The FG sandwich plates are considered to be resting on Pasternak's elastic foundations. The sandwich plate is assumed to consist of a fully elastic core sandwiched by elastic-viscoelastic FGM layers. Material properties are graded according to a power-law variation from the interfaces to the faces of the plate. The equilibrium equations of the FG sandwich plate are given based on a trigonometric shear deformation plate theory. Using Illyushin's method, the governing equations of the viscoelastic sandwich plate can be solved. Parametric study on the bending analysis of FG sandwich plates is being investigated. These parameters include (i) powerlaw index, (ii) plate aspect ratio, (iii) side-to-thickness ratio, (iv) loading type, (v) foundation stiffnesses, and (vi) time parameter

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ECOLOGICAL MODELLING 243 (2012) 63– 72

IMPACT FACTOR=2.326

MODELING GROWTH DYNAMICS OF TYPHA DOMINGENSIS (PERS.) POIR. EX STEUD. IN LAKE BURULLUS, EGYPT

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ABSTRACT

Southern Cattail (Typha domingensis) occurs everywhere in ditches and marshy places in Egypt and is one of the major components of vegetation stands along the shores of Lake Burullus close to the Deltaic Mediterranean coast. In our study, we applied a published Typha model to describe the growth production among the various organs of Southern Cattail in Lake Burullus, one of the Mediterranean eutrophic lakes, in order to answer the following questions: (1) Is the Typha model, originally designed for T. angus-tifolia and T. latifolia, suited to simulate the growth of Southern Cattail in the south Mediterranean region? and (2) How is biomass production of Southern Cattail distributed among the various plant organs? Above- and below-ground biomass of Southern Cattail was sampled monthly from February 2010 to October 2010 at three sites of Lake Burullus using three randomly distributed quadrats (each of 0.5 m × 0.5 m) at each sampling site. Shoots started to grow in February, reached the maximum biomass of 6327 ± 441 g DW m−2 in July, and then rapidly decreased in the fall when they went to senescence stage, thereafter their growth ceased before fully dying off in the winter. The total below-ground biomass reduced to 941 ± 152 g DW m−2 in March due to the upward translocation for the initial growth of shoots, gradually increased to a maximum biomass of 2184 ± 366 g DW m−2 in July by downward translocation from shoots, then decreased afterwards in the winter to reach 1193 ± 64 g DW m−2 in October. South-ern Cattail allocated approximately 52% of its total biomass to non-flowering shoots, 19% to flowering shoots, 22.5% to rhizomes and 6.5% to roots. The total above-ground biomass was 2.6 times that of the total below-ground biomass. General trends for above-ground biomass, such as the slow initial growth rate followed by a high growth rate, the timing of peak biomass, and the decline of biomass due to senes-cence, were successfully reproduced by the model. Many characteristics typical for the below-ground biomass, such as the reduction of rhizome biomass during the early growing season, and the increase in the rhizome biomass during the later period of the season, because of the translocation of materials from current photosynthesis and shoot dry matter, were also reproduced. In general, there was good agreement between the calculated results and field data although simulated results were slightly differ-ent from observations for below-ground biomass. Respiration of the above- and below-ground organs consumes a considerable amount of net photosynthetic materials 39% and 7%, respectively. The upward translocation of rhizome resources to form new shoots in February showed 8% to the gross production and the downward translocation afterwards showed a 22% to the gross production. In conclusion, Typha model is well-suited to simulate the growth of Southern Cattail stands in the south Mediterranean region and could be used in wetland management activities to predict the potential growth of Southern Cattail in Egyptian wetlands.

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FLORA 207 (2012) 459– 468

IMPACT FACTOR=1.639

TEN YEARS PRIMARY SUCCESSION ON A NEWLY CREATED LANDFILL AT A LAGOON OF THE MEDITERRANEAN SEA (LAKE BURULLUS RAMSAR SITE).

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ABSTRACT

Southern Cattail (Typha domingensis) occurs everywhere in ditches and marshy places in Egypt and is one of the major components of vegetation stands along the shores of Lake Burullus close to the Deltaic Mediterranean coast. In our study, we applied a published Typha model to describe the growth production among the various organs of Southern Cattail in Lake Burullus, one of the Mediterranean eutrophic lakes, in order to answer the following questions: (1) Is the Typha model, originally designed for T. angus-tifolia and T. latifolia, suited to simulate the growth of Southern Cattail in the south Mediterranean region? and (2) How is biomass production of Southern Cattail distributed among the various plant organs? Above- and below-ground biomass of Southern Cattail was sampled monthly from February 2010 to October 2010 at three sites of Lake Burullus using three randomly distributed quadrats (each of 0.5 m × 0.5 m) at each sampling site. Shoots started to grow in February, reached the maximum biomass of 6327 ± 441 g DW m−2 in July, and then rapidly decreased in the fall when they went to senescence stage, thereafter their growth ceased before fully dying off in the winter. The total below-ground biomass reduced to 941 ± 152 g DW m−2 in March due to the upward translocation for the initial growth of shoots, gradually increased to a maximum biomass of 2184 ± 366 g DW m−2 in July by downward translocation from shoots, then decreased afterwards in the winter to reach 1193 ± 64 g DW m−2 in October. South-ern Cattail allocated approximately 52% of its total biomass to non-flowering shoots, 19% to flowering shoots, 22.5% to rhizomes and 6.5% to roots. The total above-ground biomass was 2.6 times that of the total below-ground biomass. General trends for above-ground biomass, such as the slow initial growth rate followed by a high growth rate, the timing of peak biomass, and the decline of biomass due to senes-cence, were successfully reproduced by the model. Many characteristics typical for the below-ground biomass, such as the reduction of rhizome biomass during the early growing season, and the increase in the rhizome biomass during the later period of the season, because of the translocation of materials from current photosynthesis and shoot dry matter, were also reproduced. In general, there was good agreement between the calculated results and field data although simulated results were slightly differ-ent from observations for below-ground biomass. Respiration of the above- and below-ground organs consumes a considerable amount of net photosynthetic materials 39% and 7%, respectively. The upward translocation of rhizome resources to form new shoots in February showed 8% to the gross production and the downward translocation afterwards showed a 22% to the gross production. In conclusion, Typha model is well-suited to simulate the growth of Southern Cattail stands in the south Mediterranean region and could be used in wetland management activities to predict the potential growth of Southern Cattail in Egyptian wetlands.

FLORA 207 (2012) 783– 794

IMPACT FACTOR=1.639

SEASONAL COURSES OF NUTRIENTS AND HEAVY METALS IN WATER, SEDIMENT AND ABOVEAND BELOW-GROUND TYPHA DOMINGENSIS BIOMASS IN LAKE BURULLUS (EGYPT): PERSPECTIVES FOR PHYTOREMEDIATION

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ABSTRACT

The present study was carried out in natural stands of Typha domingensis in Lake Burullus, Egypt, to investigate (1) nutrient dynamics and heavy metals accumulation in its organs, (2) the phytoextractive potential of its organs and (3) the amount of nutrients and heavy metals released back into the water after decomposition of the dead tissues. Nitrogen concentrations were higher in the shoot than in the root and rhizome, while P, Ca, Cu, Fe, Zn and ash concentrations were higher in the root than in the rhizome and shoot. Significant differences in the concentrations of Mg, Cd, Cu and ash were assessed during the growing season of T. domingensis. The content of most nutrients and heavy metals in the shoot increased rapidly during the early growing season in February, reached maximal values in July and then decreased again. The nutrient and heavy metal contents in the below-ground portion of the plant showed an opposite trend compared to the shoot; they decreased sharply during the spring, when they were translocated, supporting the heterotrophic phase of shoot growth. However, they increased slightly from July to September and then decreased again. The transfer factors of all nutrients and heavy metals from the sediment to the below-ground organs were greater than unity. The higher translocation ratio of N in T. domingensis shoots makes it suitable for N phytoextraction from water and sediment, while the lower translocation ratios for Cd, Cu, Fe, Pb and Zn make it suitable for metal ion phytostabilisation. The dead shoot biomass of the stands at the end of 2010 amounted to 1950 g DM m−2, when the seasonal decomposition process began. With a decay rate of 0.0049 day−1, 1624 g DM m−2 is decomposed in the lake in a year. This is equivalent to releasing the following nutrient and heavy metals into the surrounding water (in g m−2): 23.4 N, 0.8 P, 19.2 Ca, 1.8 Mg, 5.6 Na, 32.8 K, 0.01 Cd, 0.01 Cu, 0.84 Fe, 0.12 Pb and 0.03 Zn.

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JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, 324 (2012) 1034–1039

IMPACT FACTOR=1.780

ELECTRICAL CONDUCTIVITY OF COBALT–TITANIUM SUBSTITUTED SRCAM HEXAFERRITES

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A B S T R A C T

A series of polycrystalline M-type hexagonal ferrites with the composition Sr0.5Ca0.5CoxTixFe12_2xO19 (where x¼0.0–0.8) were prepared by the conventional ceramic technique. The electrical conductivity has been measured from 300 to 590 K. The dc conductivity, sdc, exhibited a semiconductor behavior. The negative sign of thermoelectric power coefficient S reveals that all samples are n-type semiconductors. Both sdc and mobility, md, increases with the substitution of Co2þ and Ti4þ ions, reach maximum at x¼0.4 and start decreasing at x40.4. Many conduction mechanisms were discussed to explain the electric conduction in the system. It was found that the hopping conduction is the predominant conduction mechanism. For samples with compositional parameter x¼0.0 and 0.8, the band conduction mechanism shares in electric conduction beside the hopping process.

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ATOMIC DATA AND NUCLEAR DATA TABLES, 98 (2012) 373–390

IMPACT FACTOR=2.160

ENERGIES, WAVELENGTHS, AND TRANSITION PROBABILITIES FOR GE-LIKE KR, MO, SN, AND XE IONS

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ABSTRACT

Energy levels, wavelengths, transition probabilities, and oscillator strengths have been calculated for Ge-like Kr, Mo, Sn, and Xe ions among the fine-structure levels of terms belonging to the ([Ar] 3d10)4s24p2, ([Ar] 3d10)4s 4p3, ([Ar] 3d10)4s24p 4d, and ([Ar] 3d10)4p4 configurations. The fully relativistic multiconfiguration Dirac Fock method, taking both correlations within the n = 4 complex and the quantum electrodynamic effects into account, have been used in the calculations. The results are compared with the available experimental and other theoretical results.

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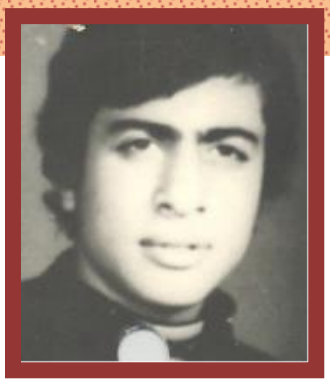
ISOTOPES IN ENVIRONMENTAL AND HEALTH STUDIES
VOL. 47, NO. 4, DEC. 2011, 456–469

IMPACT FACTOR=0.900



RADIOACTIVITY OF SAND, GROUNDWATER AND WILD PLANTS IN NORTHEAST SINAI, EGYPT

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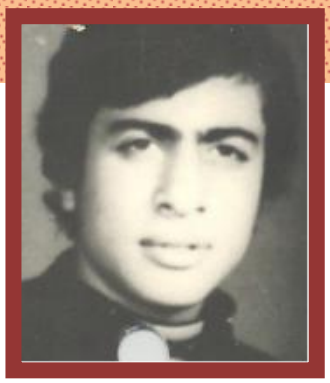
ABSTRACT

The radioactivity levels are poorly studied in non-coastal arid regions. For this reason, 38 locations covering an area of about 350 km2 in northeast Sinai, Egypt, were investigated by γ -ray spectroscopy. Moderately significant correlations among 238U, 234Th, and 226Ra isotopes and low significant correlations between the concentrations of 238U-series and 232Th in sand were obtained. No evidence of correlation was found between the concentrations of radioisotopes and pH, grain size, total organic matter content, bicarbonate or calcium carbonate concentrations of the sand samples. The mean values of soil-to-plant transfer factor were 0.15, 0.18, 1.52 and 0.74 for 226Ra, 232Th, 40K, and 137Cs, respectively. The range of concentrations of 226Ra,232Th, and 40K in water samples collected from five wells were <0.4–0.16, <0.4–0.13, and <0.15–1.62 Bq l−1, respectively. The mean absorbed dose rate in outdoor air at a height of 1m above the ground surface for the sand samples was 19.4 nGy h−1. The Raeq activities of the sands are lower than the recommended maximum value of 370 Bq kg−1 criterion limit for building materials.

JOURNAL OF MOLECULAR STRUCTURE 1016 (2012) 140–146

IMPACT FACTOR=1.634



INFRARED, RAMAN, 1H NMR, THERMAL AND POSITRON ANNIHILATION LIFETIME STUDIES OF PB(II), SN(II), SB(III), BI(III)-BARBITAL COMPLEXES

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ABSTRACT

Metal complexes of Pb(II), Sn(II), Sb(III) and Bi(III) with a barbital sodium were synthesized and characterized by several techniques, including elemental analysis (C, H and N), molar conductance measurements, infrared, Raman, 1H NMR, positron annihilation lifetime and thermogravimetric analysis. Reactions of barbital sodium (NaL) with salts of Pb(NO3)2, SnCl2_2H2O, SbCl3 and BiCl3 affords four novel mononuclear complexes [Pb(HL)2], [Sn(L)(H2O)], [Sb(HL)(L)] and [Bi(HL)(L)]. In complexes of Pb(II), Sb(III) and Bi(III), the molar ratio of metal-to-ligand is 1:2. Both of Sb(III) and Bi(III) complexes have six coordination via two molecules of barbital (HL and L), one of them deprotonated NH. The Pb(II) complex has a central metal ion adopts tetradentate fashion which surrounded by two (HL) barbital moieties. The elemental analysis shows that Sn(II) complex is tetradentate 1:1 ratio, chelated through oxygen AO of (ONa), deprotonated (ANH) and one coordinated water molecule. The positron annihilation lifetime parameters were found to be dependent on the structure, electronic configuration and molecular weight of metal complexes.

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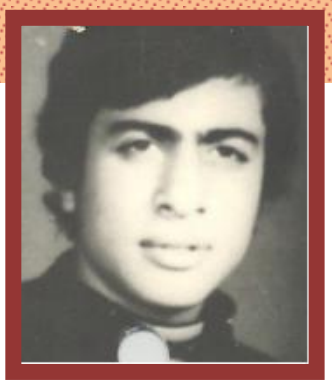
SPECTROCHIMICA ACTA PART A: MOLECULAR AND BIOMOLECULAR SPECTROSCOPY 95 (2012) 458–477

IMPACT FACTOR=2.098



SYNTHESIS AND CHARACTERIZATION OF HIGHLY CONDUCTIVE CHARGE-TRANSFER COMPLEXES USING POSITRON ANNIHILATION SPECTROSCOPY

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ABSTRACT

Molecular charge-transfer complexes of the tetramethylethylenediamine (TMEDA) with picric acid (Pi-OH), benzene-1,4-diol (QL), tin(IV) tetrachloride ($SnCl_4$), iodine, bromine, and zinc chloride ($ZnCl_2$) have been synthesized and investigated by elemental and thermal analysis, electronic, infrared, Raman and proton-NMR, energy dispersive X-ray spectroscopy, X-ray powder diffraction and positron annihilation lifetime spectroscopy, and scanning electron microscopy. In this work, three types of acceptors p-acceptors (Pi-OH and QL), r-acceptors (iodine and bromine), and vacant orbital acceptors ($SnCl_4$ and $ZnCl_2$) were covered. The results of elemental analysis indicated that the CT complexes were formed with ratios 1:1 and 1:2 for QL, $SnCl_4$, and $ZnCl_2$ acceptors and iodine, Pi-OH, and Br_2 acceptors, respectively. The type of chelating between the TMEDA donor and the mentioned acceptors depends upon the behavior of both items. The positron annihilation lifetime parameters were found to be dependent on the structure, electronic configuration, and the power of acceptors. The correlation between these parameters and the molecular weight and biological activities of studied complexes was also observed. Regarding the electrical properties, the AC conductivity and the dielectric coefficients were measured as a function of frequency at room temperature. The TMEDA charge-transfer complexes were screened against antibacterial (Escherichia coli, Staphylococcus aureus, Bacillus subtilis, and Pseudomonas aeruginosa) and antifungal (Aspergillus flavus and Candida albicans) activities.

V.R. CHIMIE 15 (2012) 298- 310

IMPACT FACTOR=1.803

SYNTHESIS, CHARACTERIZATION, MAGNETIC, THERMAL AND ELECTROCHEMICAL STUDIES OF OXIDOVANADIUM(IV) PICOLYL HYDRAZONES AS FUNCTIONAL CATECHOL OXIDASE MODELS

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ABSTRACT

The picolyl hydrazone ligands derived from picolonic acid hydrazide and α- pyridyle ketone (L^1, L^2 and L^3), α-acetyl thiophene (L^4), α-formyl or α-acetyl phenol (L^5 and L^6 respectively) and 2-hydroxy -1- naphthaldehyde (L^7) react with equimolecular amount of vanadyl sulfate in refluxing methanol to yield oxidovanadium(IV) complexes. The structure of the obtained ligands and their oxidovanadium(IV) complexes were characterized by various physicochemical techniques, *viz.* elemental analysis, molar conductance, magnetic susceptibility measurements, thermal analysis (TGA & DTG), IR, electronic absorption and ESR spectral studies. Cyclic voltammeteric behavior of the complexes has also been discussed. Five - coordinate square – pyramidal structure was proposed for all complexes. A monomeric nature was reported for complexes *(2), (3), (6),* and *(7),* while dimeric structures were suggested for complexes *(1), (4)* and *(5).* The ability of the complexes to catalyze the aerobic oxidation of catechol to the light absorbing *o*-quinone has been investigated. The results obtained show that all complexes catalyze this oxidation reaction and large variations in the rate were observed. Electrochemical data for most complexes show that there is a linear relationship between their ability to oxidize catechole and their $E_{1/2}$ potentials. The most effective catalysts were those complexes which exhibited $E_{1/2}$ values approached to the $E°$ value of the natural tyrosinase enzyme isolated from mushroom, while those that largely deviated from that potential exhibited lower oxidase catalytic activity. The probable mechanistic implications of the catalytic oxidation reactions are discussed.

EUR. J. ORG. CHEM. 2012, 5540–5551

IMPACT FACTOR=3.329

PALLADIUM-CATALYZED DIRECT C–H ARYLATION OF THIENO[3,4-B]PYRAZINES: SYNTHESIS OF ADVANCED OLIGOMERIC AND POLYMERIC MATERIALS

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ABSTRACT

The first examples are reported of an efficient regioselective direct C–H arylation of thieno[3,4-*b*]pyrazine (TP) and its 2,3-dimethyl derivative with bromoalkylthiophenes (BATs), under Heck experimental conditions using Pd(OAc)2/ Bu4NBr as the catalytic system, giving rise to a variety of valuable aryl-substituted thienopyrazines. The obtained results suggested that the 2-position of the TP moiety is less reactive towards C–H arylation than the 5- and 7-positions. Moreover, the 3-position of the TP moiety showed almost no significant reactivity when all other positions were arylated. The C–H arylation of 2,3-dimethyl-TP with an excess amount of BATs proceeded smoothly, affording the corresponding diarylated thienopyrazine derivatives in excellent yields, without any additional products. Compared to usual cross-coupling reactions, the present synthetic methodology has been used to prepare interesting donor–acceptor π-conjugated polymeric materials in a facial manner in a simple way. Microwave- assisted polymerization proved to be efficient for obtaining reasonable molecular weight copolymers ranging from 18.8 to 24.3 kgmol–1. Incorporating the thienopyrazine unit into polyhexylthiophene chains affected the photophysical and electrochemical properties. The optical band gaps were estimated to be in the range of 1.63–1.06 eV. All copolymers exhibited a diffraction peak at around 2θ = 5.72° corresponding to a *d* spacing of 15.43 Å, which was assigned to an interchain spacing between polymer main chains similar to that found in P3HT. Moreover, a peak around 2θ = 23.09 (3.84 Å) was also observed and is believed to be related to π- π stacking of the polymer backbones

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CORROSION VOL. 68, NO.8,2012

IMPACT FACTOR=1.441

NICKEL CORROSION INHIBITION IN SULFURIC ACID ELECTROCHEMICAL STUDIES, MORPHOLOGIES, AND THEORETICAL APPROACH

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ABSTRACT

The inhibition performance of three selected dihydrazide derivatives, namely, malonic acid (MAD), succinic acid (SAD), and adipic acid (AAD) dihydrazide, was tested in relation to nickel corrosion in 1.0 M sulfuric acid (H2SO4) solution. Electrochemical methods (Tafel polarization, linear polarization resistance [LPR], and electrochemical impedance spectroscopy [EIS]) were used, complemented with scanning electron microscopy/energy-dispersive x-ray (SEM/EDX) examinations. Computational studies were also used to confirm experimental findings and to optimize the adsorption structures of dihydrazide derivatives. Results showed that the three tested dihydrazides inhibited Ni corrosion (mixed-type inhibitors) to an extent, depending on the type and concentration of the introduced inhibitor. SEM studies revealed that the corroded areas on the surface were decreased in the presence of additives to an extent, depending on the type and concentration of the tested inhibitor. Results obtained from electrochemical measurements are in good agreement with theoretical studies.

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JOURNAL OF MOLECULAR STRUCTURE 1015 (2012) 56–66

IMPACT FACTOR=1.634

MACROCYCLIC NICKEL(II) COMPLEXES: SYNTHESIS, CHARACTERIZATION, SUPEROXIDE SCAVENGING ACTIVITY AND DNA-BINDING …

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ABSTRACT

A new series of nickel(II) complexes with the tetraaza macrocyclic ligand have been synthesized as possible functional models for nickel–superoxide dismutase enzyme. The reaction of 5-amino-3- methyl-1-phenylpyrazole-4-carbaldehyde (AMPC) with itself in the presence of nickel(II) ion yields, the new macrocyclic cationic complex, [NiL(NO3)2], containing a ligand composed of the self-condensed AMPC (4 mol) bound to a single nickel(II) ion. A series of metathetical reactions have led to the isolation of a number of newly complexes of the types [NiL]X2; X = ClO4 and BF4, [NiLX2], X = Cl and Br (Scheme 1). Structures and characterizations of these complexes were achieved by several physicochemical methods namely, elemental analysis, magnetic moment, conductivity, and spectral (IR and UV–Vis) measurements. The electrochemical properties and thermal behaviors of these chelates were investigated by using cyclic voltammetry and thermogravimetric analysis (TGA and DTG) techniques. A distorted octahedral stereochemistry has been proposed for the six-coordinate nitrato, and halogeno complexes. For the four-coordinate, perchlorate and fluoroborate, complex species a square-planar geometry is proposed. The measured superoxide dismutase mimetic activities of the complexes indicated that they are potent NiSOD mimics and their activities are compared with those obtained previously for nickel(II) complexes. The probable mechanistic implications of the catalytic dismutation of O__ 2 by the synthesized nickel(II) complexes are discussed. The DNA-binding properties of representative complexes [NiLCl2] and [NiL](PF4)2 have been investigated by the electronic absorption and fluorescence measurements. The results obtained suggest that these complexes bind to DNA via an intercalation binding mode and the binding affinity for DNA follows the order: [NiLCl2] h [NiL](PF4)2.

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IMPACT FACTOR=1.547

SYNTHESES AND CHARACTERIZATION OF NEW TETRAAZAMACROCYCLIC COPPER(II) COMPLEXES AS A DUAL FUNCTIONAL MIMIC ENZYME (CATALASE AND SUPEROXIDE DISMUTASE)

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ABSTRACT

A series of macrocyclic complexes, [Cu(TAAP)]X2, X¼ClO4 and CH3COO; [Cu(TAAP)X]X, X¼NO3, Cl, and Br, have been synthesized by self-condensation of 5-amino-3-methyl-lphenylpyrazole- 4-carbaldehyde (AMPC) in the presence of copper(II). Elemental analyses and conductivity measurements confirm the stoichiometry of the ligand and complexes, while the characteristic absorption bands in IR spectra confirmed the formation of ligand framework around copper. Square pyramidal and square-planar stereochemistries have been proposed for the five coordinate (nitrato and halogeno) and four-coordinate (perchlorate and acetate) complexes. The electrochemical properties and thermal behaviors have been studied by cyclic voltammetry and TGA. Mimetics of antioxidant enzymes such as superoxide dismutase (SOD) and catalase demonstrated that there is a correlation between the observed redox properties and the SOD and catalase biomimetic catalytic activities of the copper(II) complexes.

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Kafrelsheikh University

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IMPACT FACTOR=1.547

NEW MONONUCLEAR COPPER(I) AND COPPER(II) COMPLEXES CONTAINING N4 DONORS; CRYSTAL STRUCTURE AND CATECHOL OXIDASE BIOMIMETIC CATALYTIC ACTIVITY

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ABSTRACT

The synthesis of new tetradentate Schiff-base containing N4 donors is described along with the preparation of a series of copper complexes derived from this ligand. These complexes have the form [CuLX]X0, X¼OH_, X0 ¼ClO_ 4 (1) or X¼X0 ¼Cl_ (2); and [CuL]H2O(ClO4)2 (3), in addition to a copper(I) complex [Cu2L2](ClO4)2 (4). The synthesized compounds were spectroscopically characterized, showing the N4 donor ligand. The single-crystal X-ray structural analysis of 4 demonstrated the dimeric structure and univalent copper. This dimer consists of ½CuL_2þ 2 , two uncoordinated ClO_ 4 , and one acetonitrile. Each ligand is tetradentate via pyridyl and azomethine nitrogen atoms, providing a strongly distorted tetrahedron around copper(I) despite the pseudo-macrocyclic skeleton of the ligand. These complexes have been evaluated as functional model systems for catechol oxidase enzyme using 3,5-di-tertbutylcatechol (3,5-DTBC) as the test substrate. The catalytic performance of the air oxidation of 3,5-DTBC to the corresponding light absorbing 3,5-di-tert butylquinone (3,5-DTBQ) at ambient conditions was studied using UV-Vis absorption spectra. Complex 4 exhibits the highest catalytic activity with turnover number of 33 h_1. A kinetic treatment on the basis of the Michaelis–Menten model was applied. Correlation among reactivity, binding constants, electrochemical properties, and the geometry was determined. These correlations showed that the rate of oxidation is linearly correlated with the binding constants for the five coordinate 1 and 2. The catalytic investigations demonstrate that geometrical effects are only one facet of the activity. The probable mechanistic implications of the catalyzed oxidation reactions are discussed.

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ARAB J GEOSCI, PUBLISHED ONLINE 14 NOVEMBER 2012

IMPACT FACTOR=1.141

PETROGENETIC EVOLUTION OF BASALTIC LAVAS FROM BALHAF–BIR ALI PLIO-QUATERNARY VOLCANIC FIELD, ARABIAN SEA, REPUBLIC OF YEMEN

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ABSTRACT

The Plio-Quaternary Balhaf–Bir Ali volcanic field (BBAVF) constitutes one of the largest volcanic fields in SE Yemen, covering some 500 km2. It comprises cinder cones complexes associated with vesicular lava flows and scoria–spatter cones. In many places, ultramafic xenoliths are encountered within these volcanics. The explosive volcanism is mainly of alkaline character including alkali olivine basalt, hawaiite and mugearite together with subordinate tuffaceous trachytes. Major, trace and REEs data from the basaltic rocks of the BBAVF are interpreted in terms of a mantle-lithospheric origin in which crustal contribution during the initial stage of rift magmatism has occurred. Magma genesis may have resulted from plume-derived melt introducing into the base of the lithosphere. A mantle plume source is proposed for the Balhaf–Bir Ali basaltic lavas that are here interpreted as having been generated by partial melting of garnet lherzolite in the uppermost part of asthenosphere. The magmatic evolution of Balhaf–Bir Ali volcanic field may be accounted for by the recent models developed for plume structure. Keywords Balhaf–Bir Ali basaltic lavas Yemen . Partial melting . Fractional crystallization . Mantle plume source

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PARASITOL RES (2011) 109:1741–1744

IMPACT FACTOR= 2.149

MICROSATELLITE ANALYSIS OF FASCIOLA SPP. IN EGYPT

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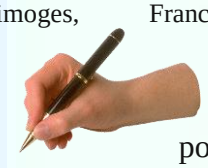

ABSTRACT

Recently, the topic of diversity in Fasciola population in Egypt is controversial. The present study was performed to study the genetic diversity of isolated flukes based on microsatellites markers. Fasciola worms were collected from different hosts and geographical locations in Egypt. Control samples of Fasciola hepatica from France as well as Fasciola gigantica from Cameroon were included in the study. Collected flukes were identified morphologically and subjected for analysis using four microsatellite markers. Results of microsatellite profile (FM1 and FM2) proved that both species of Fasciola are distributed in Egypt irrespective of geographical location and host. Nevertheless, the microsatellite profile of some analyzed loci (FM2 and FM3) proved that Egyptian flukes showed more alleles compared to the reference ones. Differences of microsatellite profile in Egyptian isolates than that of corresponding reference samples indicate the remarkable diversity of these isolates. The present results highlighted the utility of microsatellite profile to discriminate between Fasciola species and to elucidate the diversity within the species. To our knowledge, this is the first time to study microsatellite polymorphism in Fasciola populations in Egypt.

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VETERINARY PARASITOLOGY 191 (2013) 123– 127

IMPACT FACTOR= 2.579

IDENTITY AND PUBLIC HEALTH POTENTIAL OF CRYPTOSPORIDIUM SPP. IN WATER BUFFALO CALVES IN EGYPT

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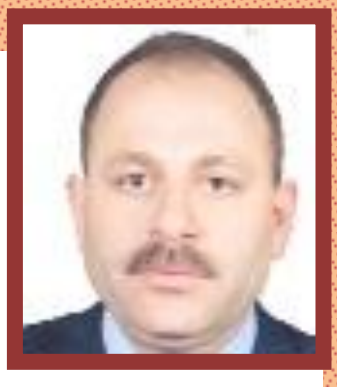
ABSTRACT

Little is known about the diversity and public health significance of Cryptosporidium species in water buffaloes. In this study, we examined the distribution of Cryptosporidium spp. In water buffalo calves in Egypt. Rectal fecal specimens from 179 calves and 359 adults were screened microscopically for Cryptosporidium oocysts using modified Ziehl–Neelsen stain. Cryptosporidium spp. in 17 microscopy positive specimens from calves were genotyped by DNA sequence analysis of the small-subunit rRNA gene, and Cryptosporidium parvum was subtyped by sequence analysis of the 60 kDa glycoprotein gene. Cryptosporidium ryanae was found in 10 specimens and C. parvum in 7 specimens, with the former belonging to the newly identified C. ryanae buffalo variant and the latter belonging to the subtypes IIdA20G1 (in 5 specimens) and IIaA15G1R1 (in 2 specimens). The prevailing occurrence of C. ryanae and the subtype family IId of C. parvum and the absence of C. bovis and C. andersoni represent some features of Cryptosporidium transmission in water buffaloes in Egypt.

PARASITE, 2012, MAY VOL. 19,NO.2,PP.177-182

IMPACT FACTOR=1.000



MOLECULAR IDENTIFICATION OF FASCIOLA SPP. (DIGENEA: FASCIOLIDAE) IN EGYPT

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ABSTRACT

Isolates of *Fasciola* spp. were collected from different definitive hosts and geographical locations in Egypt. The collected flukes were identified using PCR RFLP and sequence analyses of first nuclear ribosomal internal transcribed spacer (ITS1). Specimens of *F. hepatica* from France, as well as *F. gigantica* from Cameroon were included in the study for comparison. PCR products of ITS were subjected for digestion by *Rsa*I restriction enzyme and visualized on agarose gel. According to RFLP pattern, Egyptian flukes were allocated into two categories. The first was identical to that of French *hepatica* flukes to have a pattern of 360, 100, and 60 (bp band size, whereas the second resembled to that of Cameroonian *gigantica* worms to have a profile of 360, 170, and 60 bp in size. Results of RFLP analysis were confirmed by sequence analysis of representative ITS1 amplicons. No hybrid forms were detected in the present study. Taken together, this study concluded that both species of *Fasciola* are present in Egypt, whereas the hybrid form may be not very common.

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PARASITE. 2012 FEB;19(1):85-9

IMPACT FACTOR=1.000

MOLECULAR IDENTIFICATION OF FASCIOLA SPP. (DIGENEA: PLATYHELMINTHES) IN CATTLE FROM VIETNAM.

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ABSTRACT

F*asciola* spp were collected from naturally infected cattle at a local abattoir of Khanh Hoa Province, Vietnam for morphologic and genetic investigations. Microscopic examination detected no sperm cells in seminal vesicles, suggesting parthenogenic reproduction of the flukes. Analysis of sequences from the first and second internal transcribed (ITS1 & ITS2) ribosomal RNA revealed 13 out of 16 were of *Fasciola gigantica* type, whereas three isolates presented a hybrid sequences of *Fasciola gigantica Fasciola hepatica*. Interestingly, all the mitochondrial sequences (Partial COI and NDI) were of *F. gigatica* type, suggesting that the maternal lineage of the hybrid form is from *F. gigantica*. No intra-sequence variation was detected.

IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, VOL. 50, NO. 10, OCTOBER 2012

IMPACT FACTOR= 2.895

LECTROMAGNETIC RADIATION FIELDS IN THREE-LAYERED MEDIA WITH ROUGH INTERFACES

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ABSTRACT

Research related to the radiation and propagation of the electromagnetic fields in half space or stratified media is of interest and is considered by many authors. In this paper, a theoretical study is discussed about the propagation of radio waves in the sea (three-layered media). The variations which occur in the shape of the sea surface and sea bottom are considered. The effects of the roughness exercised onto the electromagnetic field of arrangements radiating a pure transverse electric field in the sea are studied by using the perturbation method. Closed-form expression for the far field generated by a vertical magnetic dipole embedded below the sea surface is calculated by using a simple technique to evaluate Sommerfeld integrals with the aid of the complex image theory, which was quite difficult to evaluate previously. The results obtained are compared with those mentioned elsewhere.

JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY .6 (3) (2012) 749~757

IMPACT FACTOR= 0.448

GENERALIZED THERMODIFFUSION FOR AN UNBOUNDED BODY WITH A SPHERICAL CAVITY SUBJECTED TO PERIODIC LOADING†

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ABSTRACT

In this paper, a general solution to the field equations of generalized thermodiffusion in an infinite thermoelastic body with a spherical cavity has been obtained in the context of the theory of generalized thermoelastic diffusion. The bounding surface of the sphere is subjected to periodic loading and the temperature and chemical potential are assumed to be zero on the curved surface. The generalized theory of thermoelasticity is applied to account for finite velocity of heat propagation. The closed form solutions for distributions of displacement, temperature and stresses are obtained. The solutions valid in the case of small frequency are deduced and the results are compared with the corresponding results obtained in other generalized thermoelasticity theories. Numerical results applicable to a copper-like material are also presented graphically and the nature of variations of the physical quantities with radial coordinate and with frequency of vibration is analyzed.

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JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY ,6 (3) (2012) 889~898

IMPACT FACTOR=0.448

VISCOELASTIC ANALYSIS OF AN EXPONENTIALLY GRADED SANDWICH PLATE†

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ABSTRACT

Bending response of an exponentially graded fiber-reinforced viscoelastic (EGFV) sandwich plate is investigated using various plate theories. The plate consists of viscoelastic material faces and an elastic material core. The effective moduli and Illyushin's approximation methods are used to solve the equations governing the bending of simply-support EGFV sandwich plates. Numerical results for deflections and stresses are presented and some of them are compared. The effects due to aspect ratio, side-to-thickness ratio and constitutive parameter as well as time parameter are all investigated. Concluding remarks are made.

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Kafrelsheikh University

JOURNAL OF MECHANICS, VOL. 28, NO. 2, JUNE 2012

IMPACT FACTOR=0.325

ROTATING MODERATELY THICK ANNULAR DISKS VIA AN EXTENSION TO CLASSICAL THEORY

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ABSTRACT

The problem of rotating annular disk subjected to a uniformly distributed load is treated in two ways. Stress is divided into a rotating part because of the angular velocity and a bending part due to force loading. New set of equilibrium equations with small deflections is developed. Solutions for radial displacement, deflection, forces and moment resultants, and the rotating and bending stresses of the firstorder theory are presented in terms of corresponding quantities of annular disks based on the classical theory. The boundary conditions at the edges of the annular disk are roller supported, clamped or free. Several examples are presented to illustrate the use and accuracy of these relationships. The effects of several parameters on the radial and vertical displacements and rotating and bending stresses are studied. It is observed that the classical theory is sufficient to study the problem of rotating annular disks. However, the inclusion of the effect of shear deformation is necessary to study precisely the curvature of moderately thick annular disks.

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Kafrelsheikh University

INT J THERMOPHYS (2012) 33:1288–1301

IMPACT FACTOR= 0.953

PIEZOELECTRIC BEHAVIOR OF AN INHOMOGENEOUS HOLLOW CYLINDER WITH THERMAL GRADIENT

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ABSTRACT

Ananalytical solution to the axisymmetric problem of a radially polarized, radially orthotropic piezoelectric hollowcylinder with a thermal gradient and subjected to various boundary conditions is developed. The elastic coefficients, piezoelectric coefficients, stress-temperaturemoduli, dielectric coefficient, pyroelectric coefficients, thermal conductivity coefficient, and thermal expansion coefficients of the hollow cylinder are assumed to be graded in the radial direction according to a simple powerlaw distribution. The governing second-order differential equations are derived from the equilibrium equation, the charge equation of electrostatics, and steady state heat transfer equation through the radial direction of the inhomogeneous hollow cylinder. The displacement, stresses, and potential field distributions in the cylinder are examined. The influence of the inhomogeneity parameter on the numerical results is investigated.

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MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, 19:551–567, 2012

IMPACT FACTOR=0.926

EXACT RELATIONSHIPS BETWEEN CLASSICAL AND SINUSOIDAL THEORIES FOR FGM PLATES

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ABSTRACT

Exact relationships between the bending solution of the classical (Kirchhoff) thin plate theory and the sinusoidal shear deformation thick plate theory for homogeneous and functionally graded material plates are derived by using the mathematical similarity of governing equations of the two theories, and the basis of load equivalence. It is assumed in the analysis that themechanical properties of the functionally graded plates vary continuously through the thickness of the plate and obey a simple power law distribution of the volume fraction of the constituents. Effects ofmaterial gradient property and shear deformation on the bending of functionally graded plates are discussed in the framework of the sinusoidal shear deformation plate theory. The boundary conditions at two edges of the functionally graded plate are simply supported whil the remaining two edges having the same boundary conditions are, namely, simply supported, clamped, or free. Several examples are presented to illustrate the use and accuracy of these relationships.= The effects of many parameters on the deflections and stresses are investigated.

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106

COMPOSITE STRUCTURES 94 (2012) 3685–3696

IMPACT FACTOR= 2.240

HYGROTHERMAL EFFECTS ON THE BENDING OF ANGLE-PLY COMPOSITE PLATES USING A SINUSOIDAL THEORY

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ABSTRACT

The sinusoidal shear deformation plate theory is presented to study the response of multilayered angleply composite plates due to a variation in temperature and moisture concentrations. The classical, uniform and parabolic shear deformation plate theories are also considered. The effects of temperature and moisture concentrations on the material properties and the hygrothermal response of multilayered angle-ply composite plates are studied. A number of examples are solved to illustrate the numerical results concerning bending response of multilayered angle-ply composite plates subjected to hygrothermo- mechanical effects. Hygrothermal response due to a variation in temperature and moisture concentrations has been investigated for different material types sensitive to changing hygrothermal environment conditions. Numerical results suggest that temperature-dependent and/or moisturedependent material properties ought to be used in the analysis of laminated plates subjected to hygrothermal loads

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JOURNAL OF MECHANICS OF MATERIALS AND STRCTURES VOL 7, NO.7, 2012

IMPACT FACTOR=0.675

HYGROTHERMAL EFFECTS ON THE BENDING OF ANGLE-PLY COMPOSITE PLATES USING A SINUSOIDAL THEORY

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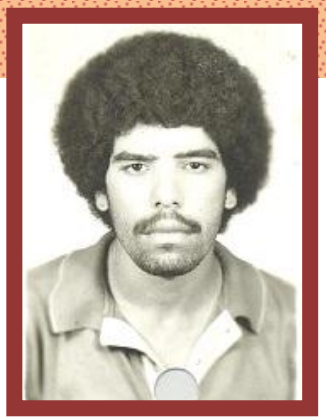
ABSTRACT

The sinusoidal shear deformation plate theory is presented to study the response of multilayered angleply composite plates due to a variation in temperature and moisture concentrations. The classical, uniform and parabolic shear deformation plate theories are also considered. The effects of temperature and moisture concentrations on the material properties and the hygrothermal response of multilayered angle-ply composite plates are studied. A number of examples are solved to illustrate the numerical results concerning bending response of multilayered angle-ply composite plates subjected to hygrothermo-mechanical effects. Hygrothermal response due to a variation in temperature and moisture concentrations has been investigated for different material types sensitive to changing hygrothermal environment conditions. Numerical results suggest that temperature-dependent and/or moisturedependent material properties ought to be used in the analysis of laminated plates subjected to hygrothermal loads.

HINDAWI PUBLISHING CORPORATION,MATHEMATICAL PROBLEMS IN ENGINEERING, VOLUME 2012, 14 PAGES

IMPACT FACTOR= 0.777



SOLUTION OF (3 _ 1)-DIMENSIONAL NONLINEAR CUBIC SCHRODINGER EQUATION BY DIFFERENTIAL TRANSFORM METHOD

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ABSTRACT

This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. Four-dimensional differential transform method has been introduced and fundamental theorems have been defined for the first time. Moreover, as an application of four-dimensional differential transform, exact solutions of nonlinear system of partial differential equations have been investigated. The results of the present method are compared very well with analytical solution of the system. Differential transform method can easily be applied to linear or nonlinear problems and reduces the size of computational work. With this method, exact solutions may be obtained without any need of cumbersome work, and it is a useful tool for analytical and numerical solution

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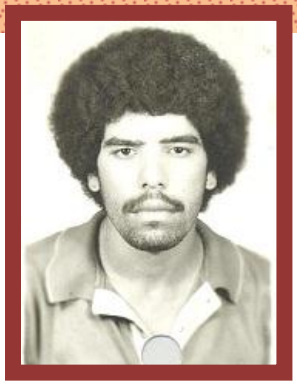
HINDAWI PUBLISHING CORPORATION,ABSTRACT AND APPLIED ANALYSIS ,VOLUME 2012, 19 PAGES

IMPACT FACTOR=1.318



THE APPLICATION OF THE HOMOTOPY PERTURBATION METHOD AND THE HOMOTOPY ANALYSIS METHOD TO THE GENERALIZED ZAKHAROV EQUATIONS

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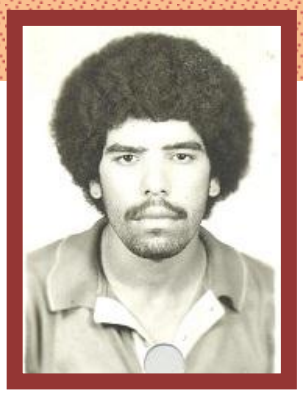
ABSTRACT

This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. We introduce two powerful methods to solve the generalized Zakharov equations; one is the homotopy perturbation method and the other is the homotopy analysis method. The homotopy perturbation method is proposed for solving the generalized Zakharov equations. The initial approximations can be freely chosen with possible unknown constants which can be determined by imposing the boundary and initial conditions; the homotopy analysis method is applied to solve the generalized Zakharov equations. HAM is a strong and easy-to-use analytic tool for nonlinear problems. Computation of the absolute errors between the exact solutions of the GZE equations and the approximate solutions, comparison of the HPM results with those of Adomian's decomposition method and the HAM results, and computation the absolute errors between the exact solutions of the GZE equations with the HPM solutions and HAM solutions are presented.

ARCHIVES DES SCIENCES, VOL 65, NO. 12;DEC 2012

IMPACT FACTOR= 0.296



THE APPLICATION OF THE VARIATIONAL ITERATION METHOD TO THE DAVEY-STEWARTSON EQUATIONS

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ABSTRACT

In this paper, the Variational Iteration Method (VIM) has been applied for solving Davey-Stewartson equations.This method is based on Lagrange multi-pliers for identi.cation of optimal values of parameters in a functional. Using this method creates a sequence which tends to the exact solution of the problem. Comparison the absolute errors between the exact solution and VIM solution are presented.

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Faculty of Arts

DISCOURSE & SOCIETY ,VOL. 22, NO. 3, 315-342

IMPACT FACTOR=0.672

IDEOLOGICAL COLLOCATION AND THE RECONTEXUALIZATION OF WAHHABI-SAUDI ISLAM POST-9/11: A SYNERGY OF CORPUS LINGUISTICS AND CDA

AMIR H. Y. SALAMA

LANCASTER UNIVERSITY, UK AND KAFR EL-SHEIKH UNIVERSITY, EGYPT,

ABSTRACT

This Study Proposes What Is Termed A 'Methodological Synergy' (Baker Et Al., 2008) Of Corpus Linguistics And Critical Discourse Analysis (Cda) For Exploring How Clashing Ideologies Have Been Actualized At Collocation Level Across Opposing Discourses On Wahhabi-Saudi Islam/Wahhabism Since 9/11. The Discursive Competition Over Wahhabi-Saudi Islam Reached A New Extreme In The Usa, When The 9/11 Attacks Called Attention To 'Islamic Puritanical Movements Known As Wahhabism And Salafiyya' (Blanchard, 2007). In This Article, I Argue That Such Discursive Competition Has Linguistically Crystallized Via The Biased Collocations That Permeate Antagonistic Texts, Which Recontextualize The Same Discourse Topic Of Wahhabi-Saudi Islam. This Has Eventually Led To The Emergence Of 'Meaningful Antagonism' (Macdonell, 1986)[1] Between Anti-Wahhabi And Pro-Wahhabi Discourses Since 9/11. One Striking Instance Of These Collocation-Based Representations Can Be Clearly Found In Two Polemical Books, The First Of Which Was Published Immediately After 9/11: Stephen Schwartz's (2002) *The Two Faces Of Islam: The House Of Sa'ud From Tradition To Terror*. The Second Came Out As A Reaction To The Attacks Against Wahhabi Islam And Saudi Arabia: Natana Delong-Bas's (2004) *Wahhabi Islam: From Revival And Reform To Global Jihad*. Thus, The Article Attempts To Answer The Following Overarching Question: How Has Wahhabi-Saudi Islam Been Ideologically Recontextualized Across Post-9/11 Opposing Discourses Via Collocation? There Are Two Methodological Procedures Towards Answering This Question. First, Employing A Corpus Method, I Have Statistically Extracted The Key Words Of The Two Texts Under Analysis, So That The Different Textual Foci In Each Can Be Recognized; And Then Computed The Collocates Of The Relevant Key Words (Wahhabi, Wahhab's And Saudi). Second, Using Cda Tools, I Have Examined The Contrastive Lexico-Semantic Relations Holding Between The Collocates Of These Key Words In And/ Or Across The Two Texts, In Terms Of 'Textual Synonymy' (Fairclough, 2001) On The One Hand, And Oppositional Paradigms (E.G. Euphemism Vs. Dysphemism) On The Other. Regarding The Findings Of The Present Study, Combing Corpus Methods And Cda Has Opened Up New Horizons Of The Critical Study Of Collocations At Theoretical And Methodological Levels. First, Collocational Relations Can Ideologically Contribute To The Recontexualization Of One Discourse Topic Across Clashing Texts. Second, Statistically Significant Collocations Can Precisely Reveal Opposing Discursive Voices Or Textual Tones Towards The Same Or Similar Topics. Last, There Has Become An Ever-Growing Need For Cda People To Build Qualitatively On More Reliably Quantified Textual Features, Especially When It Comes To Collocations.