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Department of Chemistry



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Abstracts

[Dakhil Nassir Taha, Nada Ehya Fairouz, Nadhir N. A. Jafar, Salih Hadi Kadhim, Mahmoud Hussein Hadwan, Ahmed Saleh Farhood, et al. **Fifth Scientific Symposium for Post Graduate Studies of Republic of Iraq, Ministry of Higher Education & Scientific Research, University of Babylon /College of Science, Department of Chemistry.** *Life Sci J* 2014;11(1s):100-109] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17

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Professor Dr. Haider Kamil Zaidan

Department of Chemistry College of Science/

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symposium for graduate studies (MSc) in the

Department of chemistry

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The effect of *Ortho* and *Para*-Hydroxy cinnamic acid and caffeic acid on adventitious root formation of mung bean cuttings in presence or absence of Boron.

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Abstract: The effect of *O*- and *P*- Hydroxy cinnamic acid and Caffeic acid on rooting response of mung bean cuttings with respect to auxin (IAA) & boron has been studied. The effective concentration is 10^{-3} M for all of the above tested compounds, whether cuttings were taken from 10 –day-old light grown seedling in deionized H₂O or in boric acid (5µg/ml). The results were revealed that at this conc. the above compounds induce adventitious rooting by 368.9% ,320.8% , 306.8% over control respectively , in cuttings taken from seedling grown in Deionized H₂O, whereas the percentage of induction was 287.5%, 272.5%, 283.1% respectively in cuttings taken from seedling grown in boric acid (5µg/ml). However, caffeic acid was significantly increase ARF in simultaneous application with IAA over control in presence or absence of boric acid compared to *o*- coumaric acid & *p*-coumaric acid but the roots response was declined in cuttings were taken from seedling grown in boric acid compared to d'd H₂O (636.5% & 596.6%) respectively . The role of boron in combination with the above phenolic compounds individually was suggested by its affection the decarboxylation of IAA that catalyzed by IAA-Oxidase.

[Abdullah I. Shaheed, Oda M. Yasser, Marwa S. Mohammed Kheider. **The Effect of *Ortho* and *Para*-Hydroxy cinnamic acid and Caffeic acid on adventitious root formation of Mung bean cuttings in presence or absence of Boron.** *Life Sci J* 2014;11(1s):103] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-1

Keywords: Boron, Decarboxylation , IAA, IAA-Oxidase , phenolic compounds, Rooting response.

Determination The low level of Selenium in Plant Samples

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Abstract: A simple and inexpensive spectrophotometric method for determination of trace amount of selenium (IV) was described. This method is based on oxidation of hydroxylamine hydrochloride with selenite ions to nitrous acid, which in turn diazotizes p-Nitro aniline and is coupled with 2-Naphthol in alkaline medium to form colored azo dye. This azo compound has a maximum absorption at 449 nm. The method obeys Beer's law in range of 0.08 to 0.72 ppm. With $R^2 = 0.9987$. Its molar absorptivity, Sandell's sensitivity, standard deviation and relative standard deviation were found 78565, 0.001, 0.0027 and 0.5532 respectively. All the reaction parameters have been optimized. Interferences between the azo reaction and non-targeted ions often present in plant samples were investigated. The procedure was applied successfully to the determination of selenium in plant samples.

[Dalia Abdul Amir and Sadiq J. Baqir. **Determination the low level of Selenium in Plant Samples.** *Life Sci J* 2014;11(1s):104] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-2

Keywords: selenium, selenite ions, 2-Naphthol, hydroxylamine.

Synthesis of organic Schiff Base which reacts with several anhydrides

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Abstract: The aim of this work is to synthesize Schiff base compound by condensation reaction of Benzidine with aromatic aldehyde in absolute ethanol to give Schiff base compound in high yield, this is the first path of the work. The second path of work is reacting of this Schiff base with numbers of anhydrides through cycloaddition reaction in the presence of suitable solvents to gain a novel derivative of seven membered ring compounds (Oxazepine).

[Nardeen Adnan and Saadon Abdulah. **Synthesis of organic Schiff Base which reacts with several anhydrides.** *Life Sci J* 2014;11(1s):105] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-3

Keywords: Schiff base, condensation reaction, Benzidine, anhydrides, cycloaddition.

Determination of methyl dopa by flow injection analysis using Merging Zone Technique

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Abstract : The aim of this research is two determination of methyl dopa (α -methyl-3, 4dihydroxy-phenylalanine) by flow injection analysis using Merging Zone Technique. The method is based on the charge transfer reaction with DPPH(2,2-diphenyl-1-picrylhydrazyl) reagent at 517nm. This method involves a design of a new home made valve, which manufactured from a cheap material. The optimum conditions for the reaction includes, flow rate, sample volume, reagent volume, reagent concentration, reaction coil length. The method was applied successfully to the determination of (α -methyl-3, 4dihydroxyphenylalanine) in pharmaceutical preparations. The detection limit is (1×10^{-4} M), Linearity was in the range of (1×10^{-4} - 5×10^{-5} M), correlation coefficient (R^2) was 0.9972.

[Dakhil Nassir Taha and Ahmed Shaalan. **Determination of methyl dopa by flow injection analysis using Merging Zone Technique.** *Life Sci J* 2014;11(1s):106] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-4

Key words: Methyl dopa, FIA , DPPH, Dispersion, pharmaceutical preparations .

Preparation of Ag-Cr₂O₃ and investigation of the photocatalytic degradability by UV light

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Abstract: A new photo catalyst (Ag-Cr₂O₃) was prepared by the co-precipitation method by mixing of two metal nitrate include of chromium (III) nitrate (Cr(NO₃)₃.9H₂O) with silver nitrate (AgNO₃) in different values and calcinated in different temperatures (400°C, 500°C & 700°C) to choose the one that more (stable and formation), and then determination of it 's effectiveness for the degradation of some textile dyes to optimize the best photo catalyst. The identification of the catalyst formation had been carried out by the XRD, FTIR, SEM& UV-Visble. And then some studies had been performed to optimize the reaction parameters of photo catalytic degradability: catalyst weight, initial concentration of the dye solution.

[Mohammed Zuheir Hassan and Nada Yehya Fairouz. **Preparation of Ag-Cr₂O₃ and investigation of the photocatalytic degradability by UV light.** *Life Sci J* 2014;11(1s):107] (ISSN:1097-8135).
<http://www.lifesciencesite.com>. 17-5

Key words: photo catalyst, chromium (III) nitrate, silver nitrate, textile dyes.

Synthesis and identification of diamino derivatives containing heterocyclic rings and study of their reactionsOda M. Yasser Al- Zamely ¹, Ahmed S. Hamad ², Mustafa D. Mohammed Ali ¹

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Abstract: Research include preparation of a number of organic compounds, where prepared the 3,5-diamino-1,2,4-triazoles which differs in the substitution on the position number 1, where the first compound has the phenyl group and the other has the carbamyl group, also prepared of hydrazide of p-amino benzoic acid, and prepared of 2-amino-4-phenyl thiazole. Preparation of a number of amic acids for group of aniline derivatives, also diamic acid of triazole and p-amino benzoic acid hydrazide, which were reacted to form the maleimide derivatives, After that has reactance the maleimide derivatives with 4-amino antipyrine to prepare a group of mono-azo compounds, and with the diaminetriazoles to form a number of di-azo compounds, through the conversion of amino derivatives to dizanium salts and then reacted with maleimide derivatives.

Preparation also been a number of polyamides for a number of bi-carboxylic acids, through the conversion of these acids to acid chlorides through reactance with thionyl chloride, after that reactance with the diaminetriazole derivatives to form the polyamides.

The compounds were purified and characterized characterized with the help their analytical and spectral data such as FT-IR spectrum, UV-Vis. spectrum and ¹HNMR spectrum.

[Oda M. Yasser Al- Zamely, Ahmed S. Hamad, Mustafa D. Mohammed Ali. **Synthesis and identification of diamino derivatives containing heterocyclic rings and study of their reactions.** *Life Sci J* 2014;11(1s):108] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-6

Key words: 3,5-diamino-1,2,4-triazoles, 2-amino-4-phenyl thiazole, thionyl chloride, polyamides.

Biochemical study for workers in Gas Filling Company - Branch Middle Euphrates / Hilla Gas factory via oxidant-antioxidant system

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Abstract: The workers in Gas Filling Company exposed to many gases present in domestic gas which is completed that is packaged in steel cylinders by them, the domestic gas is predominantly a mixture of butane and propane and contains ratios simple ethane and methane, as well as added chemicals to give the characteristic smell of gas, packaged then in steel cylinders for different uses.

The research aims to study the healthy problems that faced the workers in Gas Filling Company - Branch Middle Euphrates / Hilla Gas factory. The study also, tries to find the causes and solutions to these problems by studying the difference biochemical parameters via assumption of oxidative stress hypothesis. The first side of the current study includes determination the main product of lipid peroxidation and peroxy-nitrate as oxidants. On the other hand, vit E & C, GSH, GPx and GR was measured as antioxidants. The final part includes attempt to link these parameters with each other's to elucidate the ways to achieve the goal above.

[Lamia A Almashhedy and Thoalfekar Ahmed Hamza. **Biochemical study for workers in Gas Filling Company - Branch Middle Euphrates / Hilla Gas factory via oxidant-antioxidant system.** *Life Sci J* 2014;11(1s):109] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 17-7

Key words: Gas Filling Company, butane, propane, lipid peroxidation, peroxy-nitrate, glutathione.