RESEARCH PAPER PUBLISHED
(2020-2021)

Sr. No.	Title of Research Paper	Journal	Authors	Year of Publication	ISSN No.
1	Synthesis, Characterization and biological evaluation of Chalcone by MW Irradiation.	Chemistry Journal	Shrikrishna D. Tupare, Rajendra P. Pawar	2020-21	2581-7507
2	Comparative study of adsorption of Phenol and Nitro-Phenols on Granular Activated carbon and its evaluation, PP. 11-15	Journal of Engineering Sciences	M.D. Shirsath, R.S. Lokhande, D.V. Bhagat	2020-21	0377-9254
3	Study of Physico chemical Parameters of Lake Water (Gurav Ali Tale) Near Jogeswari Temple in Nagothane in Roha Taluka	Research journey International Multidisciplinary e-journal Research Journal	S. V. Chaudhari V. R. Jadhavar	2020-21	2348-7149
4	Adsorption of Ni(II) ions from aq. Solution of using Rice Huck Powder as low cost adsorbent	Research journal of Chemistry and Environment	Chaudhari Smita V., Shetye Sugandha S. and Patil Satish D.	2020-21	0950-0707
5	Open Sources e-books Manages software: A comparative Analysis	Juni Khayat Journal	H. F. Jadhav	2020-21	2278-4632
6	Synthesis, Characterization and biological activity studies of mixed ligand complexes of Cu with paracetamol and amino acid	International Journal of Grid & distributed computing	D. V. Bhagat	2020-21	2005-4262

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Synthesis, Characterization and Biological Evaluation of Newer Chalcones by Microwave irradiation

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Abstract:

Chalcones are a common natural pigment & one of the most important classes of flavonoids & iso-flavonoids across the whole edible plant kingdom. This α, β- unsaturated carbonyl is an important and versatile intermediate for the preparation of various heterocycles. Their utility lies in their usefulness as synthons. Many research articles on chalcones were found in the literature. In this article, a series of pyridazine Chalcone derivatives were synthesized by Claisen-Schmidt condensation of 6-(3-Acetyl phenylamino) pyridazin-3(2H)-one with substituted benzaldehyde with potassium hydroxide in microwave assessed irradiation. All the synthesized derivatives(3a-o) were screened for their anti-bacterial and anti-fungal activities. Several compounds throughout the series showed moderate to good anti-bacterial and anti-fungal activity against human pathogens.

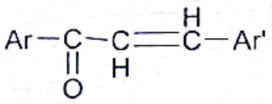
Keyword: Acetophenone, Antibacterial, Antifungal, Chalcones, Microwave, Pyridazine.

Introduction

The chemistry of chalcones is still a blossoming field. An eminent feature of the chalcones is that they

serve as the starting material for the synthesis of different classes of heterocyclic compounds. This α, β-unsaturated ketones are important and versatile intermediates for the preparation of various heterocycles.

1,3-Diaryl-2-propen-1-ones are commonly known as chalcones. They are represented as –



Their utility lies in their usefulness as synthons. Hundreds of chalcones have been isolated from natural sources and many more have been synthesized and studied over the past 50–60 years. They have received much importance in recent years because of their diverse biological activity and synthetic utility.

Chalcónes are widespread components in all parts of plants and are important as flower pigments, growth regulators, Chalcones belonging to the flavonoid family [1]., which have been reported to possess a wide spectrum of biological activities. was including anti-bacterial, anti-fungal, anti-inflammatory, anti-tumour, insect anti-feed ant and anti-mutagenic [2]. Chalcones are also key precursors in the synthesis of many biologicaliy important heterocycles such as benzothiazepine [3], Salman A. Khan (2013, p.4) have been synthesized Chalcone derivatives by the reaction of 3-acetyl-2,5-dimethylthio-phene with a corresponding active aldehyde in ethanolic NaOH in the microwave oven [4]. The structure of these compounds was established by elemental analysis.

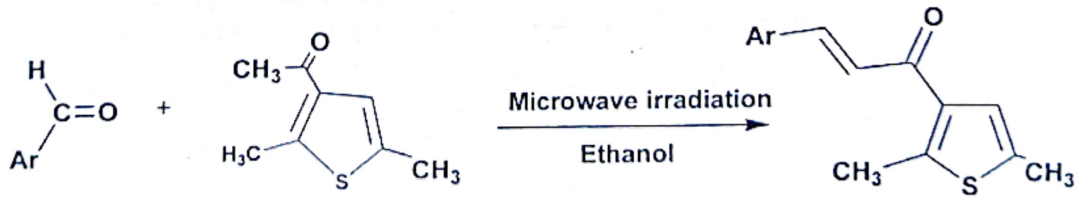


Fig. 1 Synthesis route of Chalcones

The antibacterial activity of these compounds was first tested in vitro by the disc diffusion assay against two Gram-positive and two Gram-negative bacteria, and then the minimum inhibitory concentration (MIC) was determined with the reference of standard drug Chloramphenicol. The results showed that compounds were found a better inhibitor of both types of bacteria.

JES
Journal of Engineering Sciences

Vol 11, Issue 9,SEP /2020

ISSN NO:0377-9254

COMPARATIVE STUDY OF ADSORPTION OF PHENOL AND NITRO PHENOLS ON GRANULAR ACTIVATED CARBON AND ITS EVALUATION.

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ABSTRACT - Adsorption of phenol and nitro substituted phenols from its aqueous dilute solution on bituminous coal based activated carbon has been studied under laboratory conditions with the help of thermostat. For this work, granular activated carbon made from bituminous coal is used. Experiment have been conducted at 25°C temperature with the help of thermostat constructed with a tub, two motors, Teflon stirrer, an electronic relay, etc. Experiment was carried with concentration, temperature; time and equilibrium conditions. Extent of adsorption is studied using Langmuir adsorption isotherm and Freundlich adsorption isotherm.

Key Words - adsorption, granular activated carbon, adsorbent, adsorbate

1. Introduction / Background.

Human being is blessed by gift of environmental resources such as air, water, soil, flora and fauna to fulfil its nature dependent needs and for his development. One of the valuable gifts by him is water. It is the important resource, without which no one can imagine life on earth. But water is being polluted by solids, liquids and gases produced by human activities. This water pollution alters physicochemical properties to that extent, it becomes harmful to the health and hygiene of the living organisms.[1, 2] Environmental protection agencies in various countries are taking enormous efforts to reduce this water pollution level at least up to the acceptable level.[3, 4] Advance water and waste water treatment technologies involves numerous processes like filtration, coagulation, sedimentation, chemical oxidative methods, adsorption by powered activated carbon or granular activated carbon, etc.[5 ,6 ,7 ,8 ,9 ,10 ,11 ,12 ,13]

More than 100 types of activated carbons are available for water purification. The characteristics and performance of activated carbon is greatly depending on the raw material. For the present investigation, bituminous coal based activated carbon is selected as natural adsorbent It is prepared from naturally occurring high carbon content material such as coal, petroleum, coconut, husk etc. [14]

Phenols and substituted phenols are selected for the present research. The first reason is that, adsorption of substituted phenols at various temperature using batch reactor or thermostat is not been studied in a convincing manner. The second reason is very important. The phenols are very close to the structure of many non-biodegradable insecticides and herbicides.

[4 ,1516] The third reason is that phenols impart bad taste and odour to water. In natural water resources, phenol concentration is expected to be below 50 µg, but the research study emphasis that this concentration nowadays crossed 100 µg, which is almost doubled.[4]

2.Literature review- Granular activated carbon adsorption is the most economical and efficient process for the removal of unwanted organic molecules from its aqueous phase. This process is widely accepted as it has a history of water purification. In U.S. charcoal filters were used for the removal of bad odour and dyes from water.[15] The use of powdered activated carbon and granular activated carbon for the removal of bad odour and taste was employed in Belis' work in 1920's [16] After 1940's Hackensack

ISSN : 2348-7143 March 2019
RESEARCH JOURNEY International Multidisciplinary E-Research Journal
Impact Factor (SJIF) - 6.261 | Special Issue 156 : Reconnecting with the Principles and Practices of Tribal Life

Study of Physico Chemical Parameters of Lake Water (Gurav Ali Tale) Near Jogeshwari Temple in Nagothane in Roha Taluka, Dist- Raigad (M.S) India, It's Restoration for Nagothane Residents.

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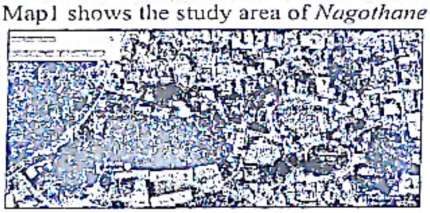
In *Nagothane* water from Lake near *Jogeshwari temple* in *Raigad* district in Maharashtra, India, can be the source of potable water for the residents of village and the visitors of temple. Local tribes like *Katkaris, Adivasis* residing in nearby area often visiting temple in festivals like *Navratra, Dashhara, Chaitra Palkhi* etc. Efforts are taken by Temple managements to make the lakes clean and decorative. This water can be used for irrigation and for drinking purpose. So physico-chemical parameters of Lake Water like Temperature (°c), pH, Sulphates (mg/l) Dissolved oxygen (mg/l), Total Suspended Solids (mg/l), COD (mg/l), and Phosphates (mg/l) helped to determine potablity of water. Results showed high total alkalinity, COD and alkaline pH. So proper purification system can be suggested.

Key words : *Jogeshwari Temple Nagothane,* Lake Water, Physico-Chemical parameters, residents and Local tribes etc.

Introduction :

A small village, Nagothane in Raigad district is located at 18.53 °N 73.13°E in Maharashtra India.. There are hills around the village and river *Amba* is passing through the village. Normally *Amba* river water is provided to villagers. There are many adivasi wadis like *Wasgaon; Pimplewadi, Cherati* etc are nearby to this village *Nagothane. Adivasis* and *Katkari* tribes are still residing on hills and are visiting Nagothane market for their daily needs. Goddess *Jogeshwari* is also worshipped by villagers, and other local tribes. There are three small lakes nearby to *Jogeshwari* Temlple called Bramhan ali Tale,*Gurav Ali Taleand Motechе Tale* . They beautify the temple surroundings and they will be helpful for potable water for villagers. Present investigations involved study of water quality of lake Gurav Ali tale ,in front of Temple .Map1 shows the study area of *Nagothane* village.



Nagothane Map

Figure1- Map for *Nagothane* village in *Raigad* district

2. Material and Method :

Water samples are collected from Lake in duplicates in December in 2018 and are stored in plastic container and analyzed for physiochemical parameters and are stored in clean sampling bottles. Analysis and collection of samples has been done according to standard methods prescribed by American Public Health Association (1995). The various water quality parameters such as colour, pH, electrical conductivity, Sulphate, COD, DO. TDS, Alkalinity, etc are determined.

3. Results and Discussion :

Following are observed parameters and are compared with WHO parameters, Bureau of Indian Standards (BIS), USPH standards for drinking water to check potablity of Lake Water and data is presented in table-1.

Sr. No	Name of the Water Quality Parameter	Observed value in winter season	USPH standards	Bureau of Indian Standard (IS-10500:1994)
1	Water temperature	28oC		
2	pH	7.98	6.5-8.5	6.5-9.2
3	Electrical conductivity	419 Gumhos/cm	400umhos-1	
4	COD	41.48mg/l	4.0ppm	15 ppm
5	DO	4.55mg/l	4.6 mg/l	3 ppm
6	Alkalinity as CaCo3	147.6mg/l	-	200mg/l
7	Total Dissolved solids	250mg/l	500mg/l	
8	Phosphate	<1mg/l	-	

Table-1 - physicochemical parameters for Lake near Jogeshwari temple in Nagothane.

3.1 Water Temperature :

Water Temperature is physical parameter. Observed water temperature is 28 0c. Water temperature is affected by air temperature, atmospheric temperature. Temperature affects photosynthesis and other biological activities of the ecosystem .

3.2 pH value :

pH is defined as negative logarithm of the H-ion concentration in the solution. Observed pH value is 7.98 i.e. slightly alkaline. The standard permissible range of pH is 6.0 - 8.5.

3.3 Electrical Conductivity (EC) :

Aqueous solution with ions carries the current and

Adsorption of Ni (II) ions from aqueous solution using *Rice Husk Powder* as low cost adsorbent

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Abstract

Adsorption of Nickel (II) ions from aqueous solution using Rice husk powder as low cost adsorbent is greener way of reducing pollution. Concentrations of Ni(II) beyond acceptable limit 0.02mg/L (according to BIS 2015) may be genotoxic and mutagenic. Present investigations were carried out to optimize contact time and initial metal ion concentration. For adsorbent dose of 0.250 g of RHP , 40 % adsorption of 50 ppm Nickel(II) was observed at room temperature in 30 minutes, with 181.5 rpm and at pH=5 Freundlich adsorption isotherm models (R^2 = 0.991) and Langmuir adsorption isotherm model (R^2 = 0.983) fit well with high value of regression coefficient nearer to 1. Simple Kinetic models such as Pseudo-first order kinetic model, Pseudo second order kinetic model, Intra particle diffusion Elovich model were employed to determine the adsorption mechanism. Pseudo second and first order kinetic models showed that the chemical adsorption process is dominant. The amount of metal adsorbed at equilibrium q_e (theoretical) obtained from Lagergren pseudo -second order kinetic model were found to be nearly the same with the experimental data i.e. 4 mg/g.

Keywords: Adsorption, Nickel (II) ions, Rice Husk Powder (RHP), Adsorption isotherms, Kinetics studies.

Introduction

In spite of stringent regulations on pollution of natural resources like water bodies, untreated or partially treated effluents are released into river bodies which are the major source of heavy metal content in soil and water environmentt[3]. Nickel is widely used in its different forms as mordant for nickel plating , metal surface treatment industries , as an important part of rechargeable batteries , emergency power supply in battery industry, in electronics, transport and, as a catalyst in various reactions like hydrogenation of vegetable oils , production of fertilizers as pesticides and fungicides etc. due to its property of resistance to corrosion, high strength over a wide range of temperature and good alloying properties. Nickel is hemotoxic, neurotoxic, genotoxic, carcinogenic agent[11]. There are several methods like Ion exchange, Reverse osmosis, Electro coagulation, Ultra filtration, Ion exchange, Chemical precipitation, Neutralization Phytoremediation etc. available for purification of water.

Adsorption is one of the most effective techniques[8,16]. Different adsorbents are used for removal of impurities and colours in water purification technology. Many agricultural waste products like Coconut husk, Neem leaves, Bone Charcoal, Coconut leaves, Tea wastes etc. have been used as low cost adsorbents for removal of Ni(II) ions[6,10]. In these studies, effect of contact time and initial concentration of Ni (II) ions on adsorption is studied and experimental data is tested with adsorption isotherms and kinetic models.

Material and Methods

All the chemicals used were of analytical grade. Double distilled water is used for all the experiments. The stock solution of 1000 ppm Ni (II) ions was prepared by dissolving 4.477 g of Nickel Sulphate in 1000 ml of double distilled water. Rice husk powder (RHP) used in these studies was obtained from agricultural land of Raigad in India. Rice husk was washed several times with distilled water to remove all adhering dirt particles. This adsorbent is dried completely in sunlight and then powdered in mixer and is stored in plastic containers.

Adsorption Experiment: In adsorption studies, batch experiments were carried out RHP as low cost adsorbent. Specific desired amount of adsorbent is shaken with 50 ml aqueous solution of Ni (II) ions at constant temperature using horizontal mechanical shaker with speed of 181.5 rpm. Concentrations of Ni(II) in solution are determined through absorbance using Equiptronics single beam UV visible spectrophotometer of wavelength 445 nm .

To study the effect of contact time and optimum concentration, a series of Ni (II) concentrations varying from 10 mg/L to 50 mg/L is used. 50 ml of each Ni (II) solution is shaken with 0.250 gm of adsorbent, for time varying from 5 minutes to 40 minutes at pH 5. The equilibrium Nickel (II) ions adsorptive quantity at time 't' is calculated with the following equation:

$$q_t = \frac{(C_o - C_t) \cdot V}{W}$$

where qt = Amount of Nickel (II) ions adsorbed in mg/g of dry adsorbent at time 't', V = Volume in liters and W= Weight of dry adsorbent in gm.

Percentage of adsorption of Ni (II) ions can be calculated by following equation:

ISSN: 2278-4632
Vol-10 Issue-8 No.8 August2020

Open source e-books manager software's: A Comparative Analysis

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Abstract

In this study, researcher has studied on Icecream e-book reader, Adobe Digital Editions, Calibre, Alfa E book Manager, eXtreme Books manager and Lucidor open source e-books manager and e-reader software's. Researcher has used some compare criteria like e-book format, system requirements, multiple language support, Metadata, design, navigation, Bookmarking, organization of e-collection, Library export and import facilities. The result of this study shows that selected e-book manager and e-reader software's are compatible with windows platform. All the software's have good design and provide facilities like bookmarking; some software's support multiple languages.

Introduction

Technology has impacted every sector of society. Print books reading culture has slowly changes to e-books reading. Most of the books are publishing in e-book format. It is necessary for readers to organize and store their e-books in order to give a rich reading experience and to the easy retrieve of favorite content. There are so many e-book management software's available on Internet. Book management software can be used for managing your eBooks on Windows PC and tablets. E-books management software supports online reading; it's also help to improve reading culture.

E-book

An electronic book, also known as an e-book or e-books, is a book publication made available in digital form, consisting of text, images, or both, readable on the flat-panel display of computers or other electronic devices.

Definition

Morgan (1999) defines e-books as being the hardware/software combination specifically designed for reading, in contrast with e-texts written in hyper-text markup language and viewable on a computer Hawkins (2000) expands the definition of e-books to include the contents of any book made available in electronic form through four different methods: downloadable, dedicated e-books; a dedicated e-books reader; web accessible e-books; or a print-on-demand book.

E-book manager software and e-book reader

An e-books management system is a process where the reader manages in an easy, interactive, and efficient way his own purchased online books and free copy right books available on the internet

Literature Review

Jun Han, Baojing Zhang, Jing Liu and Xuefei Chen(2010) . In this research study researchers have done comparative study on Amazon Kindle series, Sony PRS series, Hanwang "electronic paper book" and WeFound of Founder Group. Researcher have analysed on the basis on appearance and interface design, technical support and functional characteristics. The result of this study is showed that some e – books reader availble in black white format and some in color format, some books reader compatible with PC mobile some are not compatible with PC and mobile.

Siegenthaler, E., Wurtz, P., & Groner, R. (2010). In this research study researchers have studied on usability of e-book readers. The researcher has tested five e-book readers like iRex, Bookeen, BeBook, Sony, Ectaco jetBook, Classic paper book. The researchers have found significant differences between the different brands of e-book readers. In this study researchers have showed that the current e-reader

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International Journal of Grid and Distributed Computing
Vol. 13, No. 2, (2020), pp. 154-161

Synthesis, Characterization and Biological Activity Studies of Mixed Ligand Complexes of Copper with Paracetamol and Amino Acids

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Abstract

Synthesis of mixed ligand copper (II) complexes of type [M(par)(L)].2H_2O have been carried out by using Paracetamol (par) as a primary ligand and Amino acid (HL) such as L-Valine, L-Threonine and L-Serine as a secondary ligand. The metal complexes so synthesized have been characterized on the basis of elemental analysis, electrical conductance, room temperature magnetic susceptibility measurement and spectral analysis which include UV, IR and XRD techniques. An electrical conductance studies indicates non-electrolyte nature and magnetic susceptibility measurement revealed paramagnetic nature of the complexes. UV spectra shows intra-ligand, charge transfer and d-d transition and IR spectra confirm bonding of metal ion through O or N donar ligands which further indicates complexation. The agar cup method and tube dilution method have been used to study antibacterial activity of the complexes against pathogenic bacteria such as S.Aureus, C.Diphtheriae, S.Typhi and E.Coli.

Keywords: - mixed ligand complexes, paracetamol, Amino Acids, metal ion.

INTRODUCTION

Coordination chemistry of transition metal has been interest for several years. Copper(II) amino complexes have been receiving much attention in recent years[1] .The complexes of cooper are particular interest due to their biological and antitumor properties [2-5]. Cooper (II) salts can inactive HIV protease [6]. The ternary complexes of cooper (II) plays an important role in biological process. Proteins constitute one of the most common classes of substances present in biological system. Amino acids are building in units of proteins and enzymes[7].Amino acids have at least two principle active sites in the formation of complexes [8-11].Paracetamol is classified as a mild analgesic. It is commonly used for relief of headache and other minor aches and pain and it is a major ingredient in many flu and cold remedies as it exhibits weak anti-inflammatory property, yet it is used to treat inflammatory pain. Due to this, it was deemed fit to have some mixed liganddrugs-metal complexes with amino acid which are characterized by their chemotherapeutic properties[12-13].Therefore it was consider to study complexation and to determine the biological activities of drugs- copper complexes with amino acid. Such metal complexes are gaining increasing importance in design of drugs on coordination of metal ion. Those complexes have been found to show biological significance and metabolic enzymatic activities[13]. Anti-tamer activities of some mix ligand complexes have also been reported [14-16]. The present paper reports synthesis characterization of mixed ligands copper (II) salts with paracetamol as primary ligand and amino acid (HL) such as L-Valine, L threonine and L-serine. These complexes have been screened for their anti-bacterial properties against their pathogenic bacteriaS. aureus, C. diphtheria, S. typhi and E. coli.

Experimental:

Materials:

All chemicals of high purity were used and purchased without any further purification. Analytical Grade (A.R) $CuCl_2$. 2H_2O is used and amino acids such as L-valine , L-threonine ,L-serine are used from S.D.Fine Chemical Mumbai ,India .Solvents like ethanol, chloroform, DMSO (L.R grade) whenever used were distilled and purified according to standard procedure[17-19].