



ESTD : 1945

SJR**Sri Jagadguru Renukacharya Education Society®**

ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ

College of Science, Arts & Commerce

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years

Sl.No	Title of the Paper	Name of the Authors	Year	ISSN-No	Page No
1	Electrochemical, photocatalytic and sensor studies of clay/MgO nanoparticles	Mylarappa M. et.al	2021-22	2666-5239	8
2	Phytochemical Screening and antibacterial activities of Oroxyllum indicum (Linn.) A threatened tree of India	B. L. Manjula et.al	2021-22	2349 - 0659, 2350 - 0964	9
3	Selective Reduction of Aromatic Nitro Compounds to Amines From Pd Doped TiO2 Catalyzed Nano Catalyst	Mylarappa M. et.al	2021-22	1938-6737	10
4	Synthesis and Characterization of ZnO and MgO Nanoparticles through Green Approach and Their Antioxidant Properties	Kantharaju S. et.al	2021-22	1938-6737	11
5	Antibacterial activity of Justicia betonica Linn.	B. L. Manjula et.al	2021-22	e-ISSN : 2349 - 0659,	12
6	Callus induction and effect of L - Phenylalanine on the biosynthesis of Psoralen and Bergapten in callus cultures of Ruta graveolens L., A medicinal plant	B. L. Manjula et.al	2021-22	2581-8511	13
7	Synthesis and Characterization of Rgo Doped Nb2O5 Nano Composite for Chemical Sensor Studies	Kantharaju S. et.al	2021-22	1938-6737	14
8	Novel Synthesis and biological activity of (2E)-1-(3-AMINO-5-CHLORO-1-BENZOFURAN-2-YL)-3-ARYLPROP-2-EN-1-ONES and their derivatives	Mylarappa M. et.al	2021-22	0976-0083	15
9	Kalani Padada Suttamutta (ಕಲಾನಿ ಪದದ ಸುತ್ತಮುತ್ತ)	Manjunatha T.	2021-22	2347-5048	16
10	Development of clay ferrite nanocomposite: electrochemical, sensors and photocatalytic studies	Mylarappa M. et.al	2020-21	2666-5239	18
11	Physico-Chemical Properties of Purified Carboxylesterase from the Seeds of Tamarindus indica	Kantharaju S. Mylarappa M	2020-21	2582-0516	19

PRINCIPAL

**Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru - 560 009**



ESTD : 1945

SJR

Sri Jagadguru Renukacharya Education Society ®

ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

12	SoftwareTesting Path and Levels	Hemanth Kumar K.G et.al	2020-21	2455-6211	20
13	Electrochemical sensor studies and optical analysis of developed clay based CoFe ₂ O ₄ ferrite NPs	Mylarappa M. et.al	2020-21	2666-3511	21
14	Nobel Metal Decorated TiO ₂ Catalyst Coated On Cordierite Monolith for High Turnover Frequencies in Carbon-Nitrogen Coupling Reactions	Mylarappa M. et.al	2020-21	2360-821X	22
15	Facile Synthesis and Characterization of rGO Decorated NiFe ₂ O ₄ Nanocomposite Obtained from Waste Ni-Cd/Ni-MH Batteries	Kantharaju S. et.al	2020-21	2252-5211	23
16	Application of IoT in Library	Hemanth Kumar K.G. et.al	2020-21	0022-1945	24
17	Projective Changes between Generalized (α, β)-Metric and Randers Metric	Madhu T. S. et.al.	2019-20	2160-0384	25
18	ON FINSLERIAN HYPERSURFACE WITH GENERALIZED (α, β)-METRIC	Madhu T. S. et.al.	2019-20	0042-9945	26
19	Synthesis And Structural Characterization of Undoped CeO ₂ and Pd Doped CeO ₂ For Photo Catalytic Studies Under Sunlight And Uv-Light Irradiation	Mylarappa M. et.al	2019-20	2005-4238	27
20	Surface, Temperature and Optical Properties Pd-TiO ₂ Doped PVA Nanocomposite	Mylarappa M. et.al	2019-20	1662-9752	28
21	Effect of SnO ₂ Nanoparticle Doping on Structural, Morphological and Thermal Properties of PVA-PVP Polymer Blend	Mylarappa M. et.al	2019-20	1662-9752	29
22	Recycling And Reusing Of Li ₂ CO ₃ And Co(OH) ₂ From Waste Lithium Ion Batteries For Energy Storage And Thermal Studies	Kantharaju S. et.al	2019-20	2641-8827	30
23	Recovery of Mn-Zn ferrite from waste batteries and development of rGO/Mn-Zn ferrite nanocomposite for water purification	Mylarappa M. et.al	2018-19	2214-7853	31

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



ESTD : 1945

SJR

Sri Jagadguru Renukacharya Education Society ®

ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

24	Role of Innovation In teaching In Inculcating Human Values.	Kavitha. C	2018-19	2249-0558	32
25	Fabrication and Hierarchical Structure of ZnO Nano Particle Using Green Fuels: Cyclic Voltammetry and Impedance Analysis.	Mylarappa M. et.al	2018-19	2214-7853	33
26	A Potential Use γ -Al ₂ O ₃ Coated Cordierite Honeycomb Reinforced Ti _{0.97} Pd _{0.03} O ₂ - δ Catalyst for Selective High Rates in coupling reactions.	Mylarappa M. et.al	2018-19	2214-7853	34
27	Influence of Nanoclay to the Matrix of Vinylester/Glass Composites on their Fire Behaviour Properties.	Mylarappa M. et.al	2018-19	2214-7853	35
28	Synthesis and characterization of Ag nano particle by solution combustion method and their biological studies.	Mylarappa M. et.al	2018-19	2214-7853	36
29	Photo Decomposition of Acid orang 8 from aqueous solution by using rGO/CNT/AgO Nano composite.	Mylarappa M. et.al	2018-19	2214-7853	37
30	Effect of Oxalic Acid and Citric Acid on Recovery of Ni and Cd from Waste Batteries: Electrochemical and Thermal Investigation of Ni(OH) ₂ Synthesized from Leach Solution	Kantharaju S. et.al	2018-19	2278-4527	38
31	Effective Elimination of Acid Red 88 from Aqueous Solution and Electrochemical Studies of rGO/AgO and rGO/CNT's/AgO Based Nanocomposite.	Mylarappa M. et.al	2018-19	1936-6612	39
32	Development and Catalytic Application of Palladium Doped Titania (Ti _{0.98} Pd _{0.02} O ₂) Through Low Temperature Solution Combustion Method	Mylarappa M. et.al	2018-19	1936-6612	40
33	Green Route Synthesis of MgO Nanoparticles Using Murraya Koenigii Leaf Extract: An Efficient Photo Catalyst for Malachite Green	Mylarappa M. et.al	2018-19	1936-6612	41
34	Electrochemical Enhancement of Nickel oxide Dispersed Graphene Sheets as Electrode Material for Energy Storage Application.	Mylarappa M. et.al	2018-19	2214-7853	42

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



ESTD : 1945

SJR**Sri Jagadguru Renukacharya Education Society ®****ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce**

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

35	Cyclic Voltammetry and Electrochemical Impedance Spectral Properties of MnO ₂ Obtained by Waste Discarded Batteries Using Eco-Friendly Leaching Materials	Mylarappa M. et.al	2018-19	0970-7077	43
36	An Empirical study on impact of Technology innovation of Human Resource Management	Ananda H	2018-19	Print 2321-788X	44-47
37	Social work Practice towards Corporate social Responsibility(CSR):A Boon for Community development -	Ananda H	2018-19	2320-8244(Print version) UGC No.64317	48-52
38	Increasing Trend of Artificial Intelligence in Colleges	Basavaraju. M.N. et.al	2019-20	2230-7540	53-54
39	Influence of Labours of labours welfare Measures and social Security Benefits on socio-economic conditions of the employees: A comparative study of selected public and private sector Industrial units in Banglore, Karnataka	Dr Venkatesha Murthy	2017-18	2320-8244(Print version) UGC No.64317	55-59
40	Social work initiatives in the direction of empowerment of marginalized groups in reducing poverty and maintaining economic equality	Dr Venkatesha Murthy	2017-18	2454-7026 UGC No 47384	60-63
41	Synthesis and characterization of MnZnFe ₂ O ₄ and rGO/Mn-ZnFe ₂ O ₄ nano composite from waste batteries for photocatalytic, electrochemical and thermal studies.	Mylarappa M. et.al	2017-18	2053-1591	64
42	Resource Recovery and Material Characterization of Metals from Waste Li-ion Batteries by an Eco-Friendly Leaching Agent	Mylarappa M. et.al	2017-18	2214-7853	65
43	One Step Synthesis of Ternary Composite of GNS/CNT/MnO ₂ for the Applications of Electrochemical and Photocatalytic Studies	Mylarappa M. et.al	2017-18	2214-7853	66
44	Effect of Nanoclay on the performance of Mechanical, Thermal and Flammability of Vinylester based nanocomposites.	Mylarappa M. et.al	2017-18	2214-7853	67

PRINCIPAL**Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009,**



ESTD : 1945

SJR

Sri Jagadguru Renukacharya Education Society ®

ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

45	Synthesis and Characterization of M+Co V2O5 (M+ = Li+, Na+, K+) and Their Electrochemical Impedance Spectroscopic Studies.	Mylarappa M. et.al	2017-18	2214-7853	68
46	Facile Synthesis and characterization of MnO2/Graphene/Multi Walled Carbon Nanotube Nanostructured Ternary Composite: An Advance Material for Environmental and Biological Applications	Mylarappa M. et.al	2017-18	2214-7853	69
47	Cyclic Voltammetry, Impedance and Thermal Properties of CoFe2O4 obtained from Waste Li-ion Batteries.	Mylarappa M. et.al	2017-18	2214-7853	70
48	synthesis and characterization of Low Cost Mgo Nanoparticle for the Assessment of the Corrosion performance on Aluminium 6065	Mylarappa M. et.al	2017-18	2214-7853	71

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



ESTD : 1945

SJR**Sri Jagadguru Renukacharya Education Society ®****ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce**

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

Certificate of Confirmation**Name of the author** : Dr. Mylarappa.M**Research Centre** : Department of Chemistry, AMC Engineering College
Bannerghatta Road Bengaluru-560083,

I certified that the author Dr. Mylarappa M., worked in Sri Jagadguru Renukacharya College of Science, Arts and Commerce during the publication of the papers mentioned below.

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

Sl. No.	Title of the Paper	Name of the Authors	Year	ISSN-No	Page No
1	Surface, Temperature and Optical Properties Pd-TiO ₂ Doped PVA Nanocomposite	Mylarappa M. et.al	2019-20	1662-9752	28
2	Effect of SnO ₂ Nanoparticle Doping on Structural, Morphological and Thermal Properties of PVA-PVP Polymer Blend	Mylarappa M. et.al	2019-20	1662-9752	29
3	Recovery of Mn-Zn ferrite from waste batteries and development of rGO/Mn-Zn ferrite nanocomposite for water purification	Mylarappa M. et.al	2018-19	2214-7853	31
4	Fabrication and Hierarchical Structure of ZnO Nano Particle Using Green Fuels: Cyclic Voltammetry and Impedance Analysis.	Mylarappa M. et.al	2018-19	2214-7853	33
5	A Potential Use γ -Al ₂ O ₃ Coated Cordierite Honeycomb Reinforced Ti _{0.97} Pd _{0.03} O _{2-δ} Catalyst for Selective High Rates in coupling reactions.	Mylarappa M. et.al	2018-19	2214-7853	34
6	Influence of Nanoclay to the Matrix of Vinylester/Glass Composites on their Fire Behaviour Properties.	Mylarappa M. et.al	2018-19	2214-7853	35
7	Synthesis and characterization of Ag nano particle by solution combustion method and their biological studies.	Mylarappa M. et.al	2018-19	2214-7853	36
8	Photo Decomposition of Acid orang 8 from aqueous solution by using rGO/CNT/AgO Nano composite.	Mylarappa M. et.al	2018-19	2214-7853	37
9	Effective Elimination of Acid Red 88 from Aqueous Solution and Electrochemical Studies of rGO/AgO and rGO/CNT's/AgO Based Nanocomposite.	Mylarappa M. et.al	2018-19	1936-6612	39

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



ESTD : 1945

SJR**Sri Jagadguru Renukacharya Education Society®****ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce**

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

10	Development and Catalytic Application of Palladium Doped Titania (TiO ₂ . 98Pd0. 02O ₂) Through Low Temperature Solution Combustion Method	Mylarappa M. et.al	2018-19	1936-6612	40
11	Green Route Synthesis of MgO Nanoparticles Using Murraya Koenigii Leaf Extract: An Efficient Photo Catalyst for Malachite Green	Mylarappa M. et.al	2018-19	1936-6612	41
12	Electrochemical Enhancement of Nickel oxide Dispersed Graphene Sheets as Electrode Material for Energy Storage Application.	Mylarappa M. et.al	2018-19	2214-7853	42
13	Cyclic Voltammetry and Electrochemical Impedance Spectral Properties of MnO ₂ Obtained by Waste Discarded Batteries Using Eco-Friendly Leaching Materials	Mylarappa M. et.al	2018-19	0970-7077	43
14	Synthesis and characterization of MnZnFe ₂ O ₄ and rGO/Mn-ZnFe ₂ O ₄ nano composite from waste batteries for photocatalytic, electrochemical and thermal studies.	Mylarappa M. et.al	2017-18	2053-1591	64
15	Resource Recovery and Material Characterization of Metals from Waste Li-ion Batteries by an Eco-Friendly Leaching Agent	Mylarappa M. et.al	2017-18	2214-7853	65
16	One Step Synthesis of Ternary Composite of GNS/CNT/MnO ₂ for the Applications of Electrochemical and Photocatalytic Studies	Mylarappa M. et.al	2017-18	2214-7853	66
17	Effect of Nanoclay on the performance of Mechanical, Thermal and Flammability of Vinylster based nanocomposites.	Mylarappa M. et.al	2017-18	2214-7853	67
18	Synthesis and Characterization of M+Co V ₂ O ₅ (M+ = Li+, Na+, K+) and Their Electrochemical Impedance Spectroscopic Studies.	Mylarappa M. et.al	2017-18	2214-7853	68
19	Facile Synthesis and characterization of MnO ₂ /Graphene/Multi Walled Carbon Nanotube Nanostructured Ternary Composite: An Advance Material for Environmental and Biological Applications	Mylarappa M. et.al	2017-18	2214-7853	69
20	Cyclic Voltammetry, Impedance and Thermal Properties of CoFe ₂ O ₄ obtained from Waste Li-ion Batteries.	Mylarappa M. et.al	2017-18	2214-7853	70
21	Synthesis and characterization of Low Cost Mgo Nanoparticle for the Assessment of the Corrosion performance on Aluminium 6065	Mylarappa M. et.al	2017-18	2214-7853	71

PRINCIPAL**Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.**



Electrochemical, photocatalytic and sensor studies of clay/MgO nanoparticles

M. Mylarappa^a, N. Raghavendra^{b,*}, B.S. Surendra^c, K.N. Shravana Kumar^d, S. Kantharjau^d

^a Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru, Karnataka 560009, India

^b Department of Chemistry, East West Institute of Technology, Bengaluru 560078, India

^c Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru 560091, India

^d Department of Chemistry, Maharani Lakshmi Ammani College for Women, Bengaluru, Karnataka 560012, India

ARTICLE INFO

Keywords:

Clay
Metal oxide
Photocatalytic
Electrochemical
Sensors

ABSTRACT

We propose a method for producing cost-effective Clay-metal oxide (Clay/MgO nanocomposite) by chemical solution combustion process using urea as a fuel. X-ray diffraction (XRD) and field emission scanning electron microscopy (FE-SEM) were used to explore the structural characteristics of Clay/MgO nanocomposite. The spinel/cubic structure of the synthesized Clay/MgO nanocomposite was confirmed by XRD patterns. When the Clay was modified with MgO, FE-SEM micrographs revealed homogeneous sphere-shaped MgO. Clay/MgO nanocomposite photocatalytic performance was investigated for its possible role in the photo degradation of Rhodamine-B (Rh-B) dye under UV light. The result indicates that the composite is suited for good photocatalytic degradation performance, with a 90% degradation rate. The produced compound was subjected to electrochemical examination using a constructed electrode in 0.1 M KOH electrolyte. It worked well in redox potential measurements using cyclic voltammetry and they expanded their sensor operations, which included chemical and biomolecule sensors (Stannous Chloride Sensor, biomolecules (Dextrose), and eye drop chemicals). These studies revealed a novel platform for synthesizing Clay/MgO nanocomposite using a simple chemical process for various applications such as heavy metal detection, wastewater treatment, and electrochemical experiments.

1. Introduction

Nanostructured materials have gotten a lot of interest in recent years because of their unique features, such as better damping qualities, mechanical stability, high strength, and excellent thermal conductivity [1]. Nanostructured metal oxides with reduced crystallite sizes and large surface areas having greater attention due to their wide variety of applications, which include optical electronics, sensing devices, and Nano electronics [2]. Several metal oxide nanostructures, such as Fe₃O₄, ZnO, TiO₂, MgO, and CoFe₂O₄, are synthesized for wide applications [3–5]. MgO is a well-known photocatalyst with unique chemical, mechanical, optical and electrical properties; inexpensiveness and nontoxicity were identified as the main reason for the acceptability of MgO materials. MgO is a potential inorganic material that crystallises in the NaCl structure and is widely employed among other different applications such as sensors, antimicrobials, optical coatings, water treatment, catalysis, adsorbents and fuel additives etc [2–7]. Major reasons for this are its high surface reactivity, broad band gap, chemical and thermal

stability.

However, due to its large band gap, MgO's dominant light absorption is in the UV range, which severely limits its industrial application because the UV component of sunlight is only 4%. Meanwhile, its high electron hole (e-h) pair recombination rate results in improved active free radicals and photocatalytic efficiency [8–10]. Doping with transition metal impurities is a promising method of increasing photocatalytic activity under sunlight and these doping conventional photocatalysts with transition metal ions (such as Fe, V, Mn, Co, and Ni) shows the increasing absorption of photons followed by photocatalytic efficiency [11–16]. In the band gap of MgO, transition metal ions can generate intermediate energy states. This leads the band gap to narrow, allow visible light to begin photocatalytic activity. Researchers have focused on the synthesis of MgO nanoparticles and nanocomposite because of its wide variety of applications in advanced technologies [17,18].

Among the various methods of nanocomposites synthesis, the coprecipitation method is more suitable for Clay/MgO nanocomposite preparation [19–27].

* Corresponding authors.

E-mail address: nraghavaen@2009@gmail.com (N. Raghavendra).

<https://doi.org/10.1016/j.asadv.2022.100268>

Received 28 October 2021; Received in revised form 8 June 2022; Accepted 8 June 2022

Available online 18 June 2022

2666-5239/© 2022 The Author(s). Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009

Phytochemical Screening and Antibacterial Activities of *Oroxylum indicum* (Linn.): A Threatened Tree of India

Rohini Lama¹, B. L. Manjula^{2*}, Vijayalaxmi Kumbar³, Asim Panda⁴, Arvinder Singh⁵, Sanjeet Kumar⁶, Sugimani Marndi^{6*}

ABSTRACT

Oroxylum indicum belongs to the family Bignoniaceae. It is used as a traditional medicine from a very long time and because of over exploitation comes under threatened category. It is traditionally used against inflammation and bacterial infections. Keeping this in view, an attempt has been made to evaluate its pharmacological value through phytochemical analysis and antibacterial activities against four pathogenic bacteria. Results revealed that leaf and fruit extracts are rich in diverse types of bioactive compounds and showed inhibition potential against selected microbes. The present study highlights the importance of pharmacological potential of *O. indicum* against antimicrobial resistance.

Keywords: Antimicrobial, Inflammation, *Oroxylum indicum*, Phytochemical

Asian Pac. J. Health Sci., (2022); DOI: 10.21276/apjhs.2022.9.45.27

INTRODUCTION

Since time immemorial plants have been used in Indian villages as folk medicine by traditional healers and Shamans. Even today, in remote villages, healers still use plant parts for healing purposes which has also been proven by scientific research. Today, plants are used as a great source of natural health healing products by humans. In the past few decades, extensive research work is going on across the globe with regard to the finding of various antimicrobial effects and activities of compounds of many different plant species against various diseases. Uses of many plants are due to their antimicrobial traits, which are due to the compounds synthesized during secondary metabolism of the plants.^[1] Thousands of compounds found in plants are used as therapeutic compounds for different kinds of diseases. Many therapeutic agents have been identified and used from their natural origin, in traditional medicine.^[2] Microbial infections till date remain a scourge of humanity due to lack of vaccine against some infections, emergence of drug resistant phenotypes, and the resurgence of infections among others.^[3] Plant extracts and essential oils have been widely explored for their therapeutic activities against most microbial infections.^[4] Plants have an amazing ability to produce a wide variety of secondary metabolites such as alkaloids, glycosides, terpenoids, saponins, steroids, flavonoids, tannins, quinones, and coumarins,^[5] some of these natural products are highly efficient in the treatment of bacterial infections.^[6] Medicinal plants are traditionally used worldwide as remedies for the treatment of various diseases including asthma, gastrointestinal symptoms, skin disorders, respiratory and urinary problems, and hepatic and cardiovascular disease.^[7] Studies done by Ushimaru *et al.*, where *in vitro* antimicrobial activity of methanolic extracts of some medicinal plants such as *Allium sativum*, *Zingiber officinale*, *Caryophyllus aromaticus*, *Cymbopogon citratus*, *Mikania glomerata*, and *Psidium guajava* against *Escherichia coli*, *Salmonella typhimurium*, *Staphylococcus aureus*, and *Enterococcus* spp. showed that methanolic extract of *C. aromaticus* presented the highest anti *S. aureus* activity and was effective against all bacterial strains tested.^[8] Such types of antimicrobial activity from compounds of various plants have been reported in several research papers. *Oroxylum indicum* (Linn.) is one among the many plants widely used in Ayurvedic system of medicine. Both the stem and root are useful parts in many formulations as per Ayurvedic classics.^[9] Many studies have been done regarding the roots and the bark of

¹Department of Botany, Darjeeling Government College, Darjeeling, West Bengal, India

²Department of Botany, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Karnataka, Bengaluru, India

³Department of Botany, DPM's Shree Mallikarjun College, Canacona, Goa, India

⁴Department of Botany, Raidighi College, Raidighi, West Bengal, India

⁵Department of Botany, Akal University, Talwandi Sabo, Punjab, India

⁶Biodiversity and Conservation Laboratory, Ambika Prasad Research Foundation, Cuttack, Odisha, India

Corresponding Author: B. L. Manjula, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Karnataka, Bengaluru, India. E-mail: manjulasrivats@gmail.com

How to cite this article: Lama R, Manjula PL, Kumbar V, Panda A, Singh A, Kumar S, Marndi S. Phytochemical Screening and Antibacterial Activities of *Oroxylum indicum* (Linn.): A Threatened Tree of India. *Asian Pac. J. Health Sci.*, 2022,9(45):140-144.

Source of support: Nil.

Conflicts of interest: None.

Received: 03/04/2020 **Revised:** 22/05/2022 **Accepted:** 05/06/2022

this plant. However, very little work has been done on the fruit and leaves of this plant. Our present study was conducted to determine the antibacterial activities of *O. indicum* fruits and leaves.

METHODOLOGY

Collection of Fruits and Leaves for Experimental Work

The sample (Fruits and leaves) was collected from different parts of Odisha and kept in poly bags tagged with the botanical name and sorted out as per standard sampling procedure and passport description.^[10]

Preparation of Extracts

Soxhlet method and percolation were adopted to obtain different extracts.^[11,12] The collected experimental plant materials were

Selective Reduction of Aromatic Nitro Compounds to Amines From Pd Doped TiO₂ Catalyzed Nano Catalyst

Obaiah G.O.¹, Shivaprasad K.H.², Shrikanth K Bhat³ and Mylarappa M⁴

© 2022 ECS - The Electrochemical Society

ECS Transactions, Volume 107, Number 1

Citation Obaiah G.O. *et al* 2022 *ECS Trans.* **107** 1681

DOI 10.1149/10701.1681ecst

¹ Karnataka State Open University mysuru-570006

² Vijayanagara Sri Krishna Devaraya University

³ Talent Development Centre, Indian Institute of Science

⁴ SJR College of Science Arts and Commerce

 Journal RSS

[Sign up for new issue notifications](#)

[Create citation alert](#)

Abstract

An efficient chemoselective reduction of aromatic nitro compounds to corresponding amino analogs was achieved using palladium doped TiO₂ (Ti_{0.97}Pd_{0.03}O_{1.97}) nanoparticles. The reductions are effectively carried out in the presence of aromatic nitro compounds of various other reducible functional groups such as halo, alkoxy, carbonyl, and cyanide. The reduction of aromatic nitro compounds to aromatic amines was recognized with excellent yield (100%) by using nano porous palladium as a sustainable catalyst and as a hydrogen source. Reduced amines were well characterized using PXRD, ¹H NMR, and ¹³C NMR, spectroscopy. The stability and efficiency of the catalyst for reduction of 4-Nitrophenol were repeated for 9 cycles and the recovered catalyst was analyzed by XRD.

[Export citation and abstract](#)

[BibTeX](#)

[RIS](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. [To find out more,](#) see our [Privacy and Cookies policy](#).


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009,

Synthesis and Characterization of ZnO and MgO Nanoparticles through Green Approach and Their Antioxidant Properties

Mylarappa M¹, Rekha S², Kantharaju S², Chandruvasan S² and Shravana K N³

© 2022 ECS - The Electrochemical Society

ECS Transactions, Volume 107, Number 1

Citation Mylarappa M *et al* 2022 *ECS Trans.* **107** 689

DOI 10.1149/10701.0689ecst

¹ SJR College of Science Arts and Commerce

² SJR College

³ Maharani Lakshmi Ammanni College for Women

Journal RSS

Sign up for new issue notifications

Create citation alert

Abstract

The present work focus on the synthesis and structural characterization of ZnO and MgO Nanoparticles using geranium leaves extract as reducing agent through green approach. The prepared ZnO and MgO Nanoparticles were characterized using X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM). The elemental composition of ZnO and MgO Nanoparticles were investigated using Energy Dispersive X-ray analysis (EDAX). Based on the XRD data, the ZnO and MgO particles were measured to be 64 and 42 nanometers in size, respectively. The DPPH method was used to further test the antioxidant property of the synthesized Nanoparticles. MgO and ZnO were both found to be excellent free radical scavengers, as measured by their DPPH scavenging activities. The antioxidant property of MgO is enhanced when compared to ZnO nanoparticles.

Export citation and abstract

BibTeX

RIS

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

Antibacterial Activity of *Justicia betonica* Linn.

Swasha Khandeparker Naik¹, B. L. Manjula², M. Vaidagi Balaji³, Sugimani Marndi⁴, Sanjeet Kumar⁵, Rajkumari Supriya Devi^{1*}

ABSTRACT

Justicia betonica L., (Acanthaceae) is widely used as a traditional folk medicinal herb. Conventionally, the plant is used to cure constipation, diarrhea, malaria, pain, stomach ache, vomiting, etc. The plant possesses many therapeutic uses such as analgesic, anti-inflammatory, antimalarial, and antimicrobial properties. The present work has been designed to document the ethnomedicinal properties, phytochemistry, and antibacterial activity of *J. betonica*. Phytochemical results showed that the presence of wide variety of biologically active compounds such as flavonoids, alkaloids, tannins, and phenolic compounds. Antibacterial activity showed that the inhibition was observed with the individual extracts and was effective against all bacterial strains tested. The present study highlights the importance of *J. betonica*.

Keywords: Acanthaceae, Antibacterial activity, Ethnomedicinal, Phytochemistry

Asian Pac. J. Health Sci., (2022); DOI: 10.21276/apjhs.2022.9.4.45

INTRODUCTION

Acanthaceae consists of about 4,300 species belonging to 346 genera and top 12 most diverse families.⁽¹⁾ These plants are horticulturally important and cultivated as ornamental plant.^(2,3) Characteristic features of Acanthaceae are opposite phyllotaxy of leaves and usually leaves with entire margin, stems are round to quadrangular with solitary or racemose inflorescence, bisexual flowers, large and petaloid bracts, 4–5 petals and sepals, 2–4 stamens, and superior ovary with two fused ovules. The fruit is often explosively dehiscent present inside loculicidal capsule. Seeds are usually borne on hook such as retinacula, or retinacula lacking, surface smooth or roughened lacking trichomes or pubescent, and sometimes with hygroscopic trichomes that expand when moistened.^(4,5) *Justicia* is an important genus of Acanthaceae, with approximately 700 species, with many unresolved species which are found in pantropical and tropical regions.⁽⁶⁾ *Justicia* species are reported to occur in tropical to warm temperate regions of America, India, Indonesia, Southeast Asia, Malaysia, Pakistan, and Africa.⁽⁷⁾ The genus *Justicia* is characterized by plants usually herbs or under shrubs with simple lanceolate leaves and sessile or sub sessile flowers in spikes or panicles.⁽⁸⁾ *Justicia betonica* Linn. belonging to this genus, is a diffusely branched under shrub or an erect shrub. This plant is native to tropical Asia and tropical Africa and is distributed throughout India and Sri Lanka. In Kerala, the species is common and widely distributed in Western Ghats usually found along forest margins.^(9,10)

Various parts of this plant have been used as traditional Ayurvedic medicine in India as well as in other countries. The aerial part of this plant is used in diarrhea, inflammation, and swelling.⁽¹¹⁾ In India, the inflorescence extract of this plant is given orally to treat vomiting and constipation and used externally to wash hairs.⁽¹²⁾ Leaves are crushed and applied to relieve pain and swelling.⁽¹³⁾ Leaf and flower ash internally used for the treatment of cough, diarrhea etc.⁽¹⁴⁾ Leaf decoction is used to cure vomiting and headache. In Uganda, the leaves of *J. betonica* are used against HIV/AIDS. *J. betonica* is administered to lower cholesterol and is used to treat paralysis, ear aches, headaches, bruises, diarrhea, vomiting, constipation, pain and inflammation, and malaria in India.⁽¹⁵⁾ The plant possesses analgesic, antimalarial, antimicrobial, antioxidant, and anti-inflammatory properties.^(9,10)

¹Department of Botany, Goa University, Goa, India

²Department of Botany, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru, Karnataka, India

³Department of Botany, School of Bioscience and Technology, Vellore Institute of Technology, Vellore, Tamil Nadu, India

⁴Biodiversity and Conservation Labs., Ambika Prasad Research Foundation, Cuttack, Odisha, India

Corresponding Author: Dr. B.L.Manjula, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Karnataka, Bengaluru, India. E-mail: manjulasrivats@gmail.com

How to cite this article: Naik SK, Manjula BL, Balaji MV, Marndi S, Kumar S, Devi RS. Antibacterial Activity of *Justicia betonica* Linn. *Asian Pac. J. Health Sci.*, 2022;9(4):227-230.

Source of support: Nil

Conflicts of interest: None

Received: 06/02/2022 **Revised:** 19/03/2022 **Accepted:** 19/04/2022

Keeping the importance of *Justicia* species, the present study was designed. It may support in standardization of plant material which could give a hand in ascertaining identity and purity of crude drugs from the present study.

METHODOLOGY

Collection of Plant for Experimental Works

The sample was collected and kept in poly bags tagged with the botanical name and sorted out as per standard sampling procedure and passport description.⁽¹⁶⁾

Preparation of Extracts

Soxhlet method and percolation were adopted to obtain different extracts.^(17,18) The collected experimental plant materials were dried at room temperature under shade and were powdered after drying using mechanical devices. The powdered material of the experimental plant was kept in thimble and extraction was carried out using the Soxhlet apparatus. The residue was collected and left for air drying and dried crude extracts were stored in refrigerator for further phytochemical analysis and antibacterial activities.

©2022 The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.





CALLUS INDUCTION AND EFFECT OF L-PHENYLALANINE ON BIOSYNTHESIS OF PSORALEN AND BERGAPTEN IN CALLUS CULTURES OF *RUTA GRAVEOLENS* L., A MEDICINAL PLANT

B L MANJULA¹ and S MANJULA²

Publication

Tumbe

Group of International Journals

A Peer Reviewed Multidisciplinary Journal

Volume - 5 ; Issue - 1

January - April : 2022

ISSN : 2581-8511

Pages : 15 - 28

Article ID : TUMBE050103

Author/s

¹ Associate Professor,

Department of Botany,

Sri Jagadguru Renukacharya College of
Science, Arts & Commerce, Race course

Road, Bengaluru-560009, Karnataka, India

manjulasrivats@gmail.com

² Assistant Professor,

Department of Botany,

Government First Grade College, B M
road, Ramanagara-562159, Karnataka, In-

dia, manjularaj1983@gmail.com

Abstract

Ruta graveolens L., commonly called Rue is known to contain furanocoumarins which have gained wide applications in pharmaceutical industry. *In vitro* callus production is an alternative source to produce furanocoumarins. In the present study, callus tissue was raised from the nodes of *Ruta graveolens* on MS medium supplemented with growth regulators and amino acids. L-Phenylalanine was used as a precursor to increase the production of Psoralen and Bergapten in the callus cultures. NAA (10.74 μ M) + BAP (4.44 μ M) supplemented with L-Phenylalanine of various concentrations yielded more callus. HPLC analysis revealed that the nodal extract contained less amount of Psoralen and Bergapten whereas Psoralen was not observed in the nodal derived callus. It was observed that the highest amount of Bergapten of 27.45 mg/g DW was produced in the callus raised on MS medium supplemented with NAA (10.74 μ M) + BAP (4.44 μ M) + L-Phenylalanine (2.42 mM).

Keywords: *Ruta graveolens*, callus culture, L-Phenylalanine, Psoralen, Bergapten



Synthesis and Characterization of Rgo Doped Nb₂O₅ Nano Composite for Chemical Sensor Studies

Mylarappa M¹, Chandruvasan S², Kantharaju S² and Rekha S²

© 2022 ECS - The Electrochemical Society

ECS Transactions, Volume 107, Number 1

Citation Mylarappa M *et al* 2022 *ECS Trans.* **107** 269

DOI 10.1149/10701.0269ecst

¹ SJR College of Science Arts and Commerce

² SJR College

Journal RSS

Sign up for new issue notifications

Create citation alert

Abstract

It has been reported that an effective synthesis of rGO-Nb₂O₅ composite for electrochemical sensor studies has been reported. The modified Hummer's method was used to produce reduced graphene oxide (rGO). The metal oxide (Nb₂O₅) was introduced to the rGO via the hydrothermal method to form the composite. X-ray diffraction (XRD), scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FTIR), and were used to examine the sample. The CV measurements show a significant improvement in electrochemical reversibility, with the specific capacitances of rGO and Nb₂O₅/rGO being 45 and 110 Fg⁻¹, respectively. These results indicate that the capacitive behavior and electron transfer of the Nb₂O₅/rGO nano composite was significantly higher than that of rGO. The charge-discharge curves show good symmetry and linear deviations with time change, indicating superior capacitance. This is primarily due to the electrode reversible reaction, and it has also been revealed as a type of super capacitor electrode material. The electrode materials obtained have the highest specific capacitance and excellent rate capability.

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

PRINCIPAL
Sri Jagadgurur Nonchal
of Science, Arts & Com
Bengaluru-560 003

NOVEL SYNTHESIS AND BIOLOGICAL ACTIVITY OF (2E)-1-(3-AMINO-5-CHLORO-1-BENZOFURAN-2-YL)-3-ARYLPROP-2-EN-1-ONES AND THEIR DERIVATIVES

Mahesh Kumar¹, K. M. Basavaraja^{1,✉}, Manjunatha Harihara Mathada²
and M. Mylarappa³

¹Department of Chemistry, Vijayanagara Sri Krishnadevaraya University, Ballari -583104, Karnataka, India

²SB Arts and KCP Science College, Vijayapura-586103, Karnataka, India.

³Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts & Commerce, Racecourse Road Bengaluru-560009, Karnataka, India.

✉Corresponding Author: kmbasavaraja@gmail.com

ABSTRACT

In continuation of our search for pharmacologically potent benzofuran compounds, we undertook the synthesis of 5-chloro-2-hydroxy benzonitrile (2) from 5-chloroslicylaldehyde (1) by treating with acetic anhydride and sodium ethoxide. We get biologically active benzofurans and their derivatives. When compound 2 was treated with chloroacetone, yielded compound 3. Then the compounds 4 and chalcones 5a-e were prepared by treating compound 3 with aqueous sodium hydroxide and substituted aldehyde, respectively. Compound 5a was converted into compound 6a by treating with acetic anhydride. All newly synthesized compounds have been characterized by IR, ¹HNMR, and Mass spectral data. All the extracts were screened for antimicrobial activities against various pathogenic microorganisms and exhibited appreciable activities compared with standard drugs.

Keywords: Benzofurans, Chalcones, Antibacterial, Antifungal Studies.

RASĀYAN *J. Chem.*, Vol. 14, No.3, 2021

INTRODUCTION

Simple to complex structures of Chalcones (1, 3-diaryl-2-propen-1-ones) have produced significant research over the last few decades. These act as precursors intermediates for synthesizing beneficial biologically active heterocyclic compounds such as pyrimidine, isoxazole, pyrazole, benzofuranone, quinolinone, etc. The existence of three carbon unsaturated between two aromatic rings shows an extensive biological studies such as anti-invasive activity, anti-HIV, anti-inflammatory, anti-malaria, anti-cancer and antibacterial activities.¹⁻⁹ Benzofurans derivatives are of great interest in medicinal chemistry as a result of their therapeutic activity.¹⁰ This is the first work we have read in the scientific literature that supports the notion that Benzofuran-substituted Chalcones derivatives have anticancer properties.¹¹ Many new benzofuran compounds with therapeutic properties are currently under development.¹² These many molecules have been synthesized in different ways. In this route, relatively simple Benzofuran molecules are obtained from which pharmacologically active molecules can be constructed. The current route is widely used to synthesize pharmacologically potent benzofuran heterocycles have shown moderate to good activity against various types of organisms.^{13,14}

The present work reveals the compound 5-chloro-2-hydroxybenzonitrile 2 from 5-chloroslicylaldehyde (1) by treating acetic anhydride and sodium ethoxide. We have continued to get biologically active benzofurans and their derivatives. Compound 2 was treated with chloroacetone to yield compound 3. Then the compound N-(2-Acetyl-5-chloro-2, 3-dihydro-1-benzofuran-3-yl) acetamide (4) and Chalcones (2E)-1-(3-Amino-5-chloro-1-benzofuran-2-yl)-3-arylprop-2-en-1-ones 5 (a-e) were obtained by treating with aqueous sodium hydroxide and various substituted aldehyde, respectively. Further, compound 5a was converted into its acetyl derivative 6a by treating with acetic anhydride. This proves that the amino group at 3- position is free to explore the scope of different applications.



ISSN: 2347 - 5048



ಅರುಹು ಕುರುಹು

ಆರ್ಟ್‌ಲೋಬ್ ಬಿಲೇಷ ಸಂಚಿಕೆ

ARUHU KURUHU

ARTLOBE SPL. ISSUE

ಯುಜಿಸಿ ಕೇರ್ ವರ್ಗಿಯಲ್ಲರುವ ಮತ್ತು ತನ್ನ ಪರಿಶೀಲಿತ ದ್ವಿ-ಭಾಷಾ ಪತ್ರಿಕೆ
UGC CARE LISTED AND PEER - REVIEWED BI-LINGUAL JOURNAL

ಸಂಪುಟ: ೧೩ ಆರ್ಟ್‌ಲೋಬ್ ಬಿಲೇಷ ಸಂಚಿಕೆ: ೪೯, ಜುಲೈ- ಸೆಪ್ಟೆಂಬರ್-೨೦೨೨

Volume : 13, ARTLOBE SPL. ISSUE, 49, July-September 2022

ತಜ್ಞಪರಿಶೀಲನಾ ಸಮಿತಿ PEER REVIEW COMMITTEE

- ಪ್ರೊ. ನಿರಂಜನ ವಾಸಳ್ಳಿ
ಉಪವಿಭಾಗ, ಬೆಂಗಳೂರು ಉತ್ತರ ವಿವಿ, ಕೋಲಾರ
- ಪ್ರೊ. ವಿಜಯಕುಮಾರಿ ಎಸ್. ಕರಿಕಲ್
ನಿರ್ದೇಶಕರು, ಕುಕುಲಸಂ, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
- ಡಾ. ಪ್ರೀತಿ ಶ್ರೀಮಂಧರಕುಮಾರ್
ಪ್ರಾಧ್ಯಾಪಕರು (ನಿ), ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
- ಡಾ. ಮುಜಾಫರ್ ಅಸ್ಸಾದಿ
ರಾಜ್ಯಶಾಸ್ತ್ರ ಪ್ರಾಧ್ಯಾಪಕರು, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
- ಡಾ. ವಿನಯಾ ಒಕ್ಕುಂದ
ಪ್ರಾಧ್ಯಾಪಕರು, ಸರ್ಕಾರಿ ಪ್ರೌಢ ಶಾಲೆ, ಕಾಲೇಜು, ದಾಂಡೇಲಿ
- ಡಾ. ಸೋಮಣ್ಣ ಹೊಂಗಳ್ಳಿ
ಕನ್ನಡ ಪ್ರಾಧ್ಯಾಪಕರು, ಪುಂಗಲೂರು ವಿಶ್ವವಿದ್ಯಾಲಯ
- ಡಾ. ಮೇಟಿ ಮಲ್ಲಿಕಾರ್ಜುನ
ಭಾಷಾವಿಜ್ಞಾನ ಪ್ರಾಧ್ಯಾಪಕರು, ಕುವೆಂಪು ವಿಶ್ವವಿದ್ಯಾಲಯ
- ಡಾ. ಎಫ್.ಟಿ. ಹಳ್ಳಿಕೇರಿ
ಹಸ್ತಪ್ರತಿಶಾಸ್ತ್ರ ಪ್ರಾಧ್ಯಾಪಕರು, ಕನ್ನಡ ವಿಶ್ವವಿದ್ಯಾಲಯ
- ಡಾ. ಪರಮಶಿವಮೂರ್ತಿ
ಕನ್ನಡ ಪ್ರಾಧ್ಯಾಪಕರು, ಕುಮಕೂರು ವಿಶ್ವವಿದ್ಯಾಲಯ
- ಡಾ. ಅಪ್ಪಗೇರೆ ಸೋಮಶೇಖರ
ಕನ್ನಡಪ್ರಾಧ್ಯಾಪಕರು, ಕರ್ನಾಟಕ ಕೇಂದ್ರೀಯ ವಿಶ್ವವಿದ್ಯಾಲಯ

ಸಂಪಾದಕರು

ಪ್ರೊ. ಎಚ್ ಎಸ್ ಉಮೇಶ

ವಿಶೇಷ ಸಂಚಿಕೆಯ ಸಂಪಾದಕರು
ಪ್ರೊ. ಮಹಾಂತೇಶ ಬ ಹಾವಾಣಿ

ವ್ಯವಸ್ಥಾಪಕ ಸಂಪಾದಕರು
ಹಾ ತಿ ರತ್ನ

ಮುಖಪುಟ ವಿನ್ಯಾಸ
ಗಂಗೋತ್ರಿ ಮಹೇಶ್

ತಾಂತ್ರಿಕ ಸಹಕಾರ
ವಿಮಲ್ ಹಾಲತಿ

PRINCIPAL
Sri Jagadguru Renukacharya Coll
of Science, Arts & Commerce
Bengaluru-560 009.

ಅರುಹು ಕುರುಹು ದ್ವಿ-ಭಾಷಾ ಪತ್ರಿಕೆ
#೧೦, 'ಬೆಳಕು', ಕುವೆಂಪು ರಸ್ತೆ, ಪೃಥ್ವಿ ಬಡಾವಣೆ, ದಟ್ಟಗಲ್ಲು ಶಿನೆಯ ಹಂತ
ಮೈಸೂರು-೫೭೦೦೩೩, ಮೊ: ೯೮೮೬೬೨೨೮೩೩

ARUHU KURUHU Bi-lingual Magazine
10, Belaku, Kuvempu Road, Pruthvi Layout, Dattagalli
Mysuru-570033, mob: 9886622833,
Email: aruhukuruahu@gmail.com

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

ಇಂಗ್ಲೀಷ್

ಕನ್ನಡ ವಿಭಾಗ

೦೧. ಭಾಷಾ ಬೋಧನೆಯ ಬಹುಮುಖೀ ನೆಲೆಗಳು
-ಡಾ. ಮಹೇಶ ಎಚ್. ಗಾಜಪ್ಪನವರ / ೦೭
೦೨. ಭಾಷೆ ಬೋಧನೆ, ಕಲಿಕೆ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ
- ಡಾ. ಎಚ್. ಎ. ಭೋಗಲೆ / ೧೧
೦೩. ಕನ್ನಡ ಸಾಹಿತ್ಯ : ಮಹಿಳಾ ಪ್ರಜ್ಞೆ ಮತ್ತು ವೈದೇಹಿ ಕಥೆಗಳು
-ಪ್ರೀತಿ . ಬಿ / ೧೬
೦೪. 'ಕಬನಿ' ಪದದ ಸುತ್ತಮುತ್ತ
-ಡಾ. ಮಂಜುನಾಥ. ಟಿ / ೧೯
೦೫. ಶ್ರೀನಿವಾಸರ ಯಶೋಧರಾ : ಮಹಿಳಾ ಪ್ರಜ್ಞೆ
*ಗಾಯತ್ರಿ ಹೆಗಡೆ ಗಡಿಗೇಹೂಳೆ **ಸಂಧ್ಯಾ ಹೆಗಡೆ ದೊಡ್ಡಹೊಂಡ / ೨೫
೦೬. ವಿಶ್ವ ಸಂಸ್ಥೆಯ ಪ್ರಸ್ತುತ ಕಾರ್ಯವೈಖರಿ ಮತ್ತು ವಾಸ್ತವಿಕತೆ
-ಕೆ. ರಂಗರಾಜ / ೩೧

ENGLISH DIVISION

1. Rejuvenating Bamboo Handcraftsmanship: A Sustainable Development Approach
*Nagashree B A **Prof.Mahantesh B. Havani / 37
2. Role of Social Media as a Medium of Communication for Breastfeeding Mothers
*Harini.B ** Dr. N. Sanjeeva Raj / 43
3. Socio-economic Status of Nomadic Tribes in India
- Dr. Mallikarjun Nagashetty / 50
4. Recent Trends in Inflation rates and its effects on real GDP in India-Issues and Challenges
-Dr.Padmini S.V. / 56
5. Ingenious Pedagogical Methods Learning Through Argumentation
*Sanjana ** Dr Rafic Taj . V / 61

6. Appraisal of Online Education: Peer Evaluation and Review
*Harshitha Rao ** Dr. Devaki .T .C / 68
7. The Impotance of The Humanities in The Age of STEM.
*Sonia .S ** Hafsa Fathima / 73
8. Evaluation and Quality Education
*M.S. Jayagowri **Prof. Pauline Edwin / 77
9. Challenges of Psychologist in 21st Century
*Dharani .V ** Dr. Asha .H / 85
10. Working Women Constraints and Challenges
*Sneha. Y **Divya . M / 91
11. Womens Participation in Poilitics
*Yoga Tanmayi **Gayathri .G / 99
12. Effect of Youth Empowerment Seminar on Mental Health of Students of Secondary Schools
-Manisha Srivastava / 103
13. Cropping Pattern and Food Insecurity: A Farmer's Perspective Approach
*Mahantesh B. Havani **Dr. Padmini .S.V / 110

ಬೆಂಗಳೂರಿನ ಪ್ರಸಿದ್ಧ ಎನ್.ಎಂ.ಕೆ.ಆರ್.ವಿ ಮಹಿಳಾ ಕಾಲೇಜಿನ ಮಾನವಿಕ ವೇದಿಕೆಯು ಆಯೋಜಿಸಿದ್ದ "ಮಾನವಿಕ ಶಾಸ್ತ್ರಗಳ ಅಧ್ಯಯನದ ಪ್ರವೃತ್ತಿಗಳು ಮತ್ತು ಸವಾಲುಗಳು : ಬಹುಶಿಸ್ತೀಯ ದೃಷ್ಟಿಕೋನ" ವಿಷಯದ ರಾಷ್ಟ್ರೀಯ ಸಮ್ಮೇಳನದಲ್ಲಿ ಮಂಡಿಸಿದ ಲೇಖನಗಳನ್ನು ಅರುಹು ಕುರುಹು ಪತ್ರಿಕೆ ಪ್ರಕಟಿಸಿದೆ

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce

Bengaluru-560 009.



Development of clay ferrite nanocomposite: Electrochemical, sensors and photocatalytic studies

N. Raghavendra^a, H.P. Nagaswarupa^{b,*}, T.R. Shashi Shekhar^c, M. Mylarappa^d, B.S. Surendra^a, S.C. Prashantha^a, C.R. Ravikumar^a, M.R. Anil Kumar^a, N. Basavaraju^a

^a Department of Science, East West Institute of Technology, Bengaluru-560 091, Karnataka, India

^b Department of Studies in Chemistry, Shivagangothri, Davangere University, Davangere, 577007, Karnataka, India

^c Department of Civil Engineering, East West Institute of Technology, Bengaluru-560 091, Karnataka, India

^d Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts & Commerce, Bengaluru-560009, Karnataka, India



ARTICLE INFO

Keywords:
Bentonite
Manganese
NFBC
CV
Sensors
Photocatalytic

ABSTRACT

Nano ferrite bentonite clay composite (NFBC) is synthesized in this present work by using manganese (Mn) recovered from waste batteries, ferric nitrate and citric acid prepared by simple and cost-effective Indian sodium bentonite nanoclay (Na-IB) by sol-gel process and by using X-ray diffractometer (XRD), scanning electron microscopy (SEM), Fourier transform infrared (FT-IR) Spectroscopy, Energy dispersive Spectroscopy (EDS) characterized nanoparticles. The result shows that NFBC is sufficient for the excellent performance of AO dye photocatalytic degradation (98 %). Electrochemical study of prepared material with graphite electrode paste in 0.1 M KCl electrolyte showed excellent redox potential output as calculated by cyclic voltammetry and expanded its sensor activities to biochemical (Dextrose). We examined the efficacy of NFBC in the detection of Dextrose from an aqueous solution and compared the results with pristine $MnFe_2O_4$ NPs.

1. Introduction

Nowadays, the elimination of hazardous natural and inorganic materials from industrial waste is of great ecological importance, and chemical toxins and their toxicities are causing serious problems around the world. New toxins are increasing over time, which present severe health and scientific difficulties. Water pollution is one of the natural problems that make life's daily routine challenging. The expulsion of different toxic compounds from water and wastewater has been a focal point of concern for many researchers and experts around the world over the last few years. The dyeing, battery, mining, metallurgical engineering, electroplating, pigmentation, nuclear power, electrical equipment, semiconductor and cosmetics industries, etc., produces many types of wastewater pollutants [1–2]. In this way, the key procedure is to eliminate waste from the environment before it is released into the environment.

Due to their harmfulness, the accumulation of heavy metals in nature is a genuine ecological concern. The existence of heavy metals in the oceanic atmosphere is a cause of many health problems for living beings [3]. Heavy metals are a vital group of inorganic toxins and pollute a vast area of land due to their essence in the sludge, fertilizers, pesticides, municipal waste, mining residues and refining industries [4–7]. A few metals are essential to life and have an exceptional effect on the human

metabolic system, such as the functioning of fundamental enzyme sites (living beings) and may cause problems even at low levels of exposure [8]. New and ongoing advances in water treatment are being proposed all over the world to regulate these uncontrollable discharges of these dangerous contaminants through wastewater. A variety of techniques have been developed, such as chemical precipitation, evaporation, solvent extraction, ion exchange, electrochemical treatment, membrane filtration methods and so on to remove these unsafe toxins.

On the other hand, these methods were not suitable for the removal of radioactive metals and may be hazardous to living beings. The adsorption system is the ideal method for removing pollutants from wastewater due to the essential favorable circumstances of low cost, ease of use, profitability, ease of service, performance and other approaches [9–15]. This system is anything but difficult to operate and ideal for the evacuation of harmful contaminants, even at low fixation levels. Essentially, clay mineral is additionally used as an adsorbent because it has a high adsorption capacity for a few metal particles, such as arsenate [16–17] and lead [18]. It requires a great deal of thought due to its use as a persuasive adsorbent to detect toxic metal particles found in an aqueous solution over a while [19–23].

The community of clays and clay minerals has a vital impact on the environment and is used as an amazing adsorbent material to extract

* Corresponding authors.

E-mail addresses: nswarupa@davangereuniversity.ac.in (H.P. Nagaswarupa), shashishekhar@gmail.com (T.R.S. Shekhar).

<https://doi.org/10.1016/j.apsadv.2021.100103>

Received 18 December 2020; Received in revised form 19 March 2021; Accepted 9 May 2021

2666-5239/© 2021 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)





Physico-Chemical Properties of Purified Carboxylesterase from the Seeds of *Tamarindus indica*

S. Kantharaju¹ and M. Mylarappa^{1*}

¹Department of Chemistry, Sri Jagadguru Renukacharya College of Science Arts and Commerce, Race course Road Bengaluru-560009, Karnataka, India.

Authors' contributions

Both the authors have equal contributions in designing, executing and preparation of manuscript. Both authors read and approved the final manuscript

Article Information

DOI: 10.9734/AJRB/2021/v8i130173

Editor(s):

(1) Dr. Spirina Liudmila V., Siberian State Medical University, Tomsk National Research Medical Center, Russia.

Reviewers:

(1) Nada Abdunnassir Elsharif, University of Benghazi, Libya.

(2) Guang-Bo Ge, Shanghai University of Traditional Chinese Medicine, China.
Complete Peer review History: <http://www.sdiarticle4.com/review-history/64361>

Original Research Article

Received 17 November 2020

Accepted 14 January 2021

Published 06 February 2021

ABSTRACT

The present work is focus on physical and chemical properties of purified Carboxylesterase using the Seeds of *Tamarindus Indica*. The esterases are extracted from the germinating tamarind seeds using 50 mM phosphate buffer, pH 7 and purified. The K_m with α -naphthyl acetate, β -naphthyl acetate and α -naphthyl butyrate as the substrates is 28.6 μM , 22.2 μM and 26.7 μM respectively. The V_{max} for the same substrates is 7.1×10^{-3} $\mu\text{mole}/\text{min}$, 7.41×10^{-3} $\mu\text{mole}/\text{min}$ and 8.00×10^{-3} $\mu\text{mole}/\text{min}$ respectively. The enzymes optimally active at pH 7.0 and are stable between pH 5.0 to 8.0. The optimum temperature of esterase activity is 40°C. The molecular weight of 27.5 kD as determined by SDS-PAGE, both in the presence and absence of β -mercaptoethanol and is in close agreement with the molecular weight determined by gel-filtration on Sephadex G-100 (26.9 kD).

Keywords: Tamarind; carboxylesterase; gel filtration; saphadex G-100; SDS-PAGE.

*Corresponding author. E-mail: myfu4mkallihatti@gmail.com;



Software Testing Path and Levels

Ramesha A V¹, Hemanth Kumar K G², Prof. Sumanth S³

¹Librarian, SJR College of Science, Arts and Commerce, Bengaluru City University, Bengaluru

²Lecturer, Dept. of Computer Science, SJR College of Science, Arts and Commerce, Bengaluru City University, Bengaluru

³Assistant Professor & HoD, Computer Science, Smt. V.H.D. Central Institute of Home Science – Autonomous, Bengaluru

ABSTRACT

Programming testing in significant action in Programming improvement. It is one of the significant movements which require part of time and work. Distinctive testing strategies are utilized to discover bugs in the product. Testing is included at various phases of programming advancement like unit testing, combination testing, framework testing, acknowledgment testing and so forth. Diverse testing strategies to be specific unique testing, practical testing and auxiliary testing are utilized to test programming.

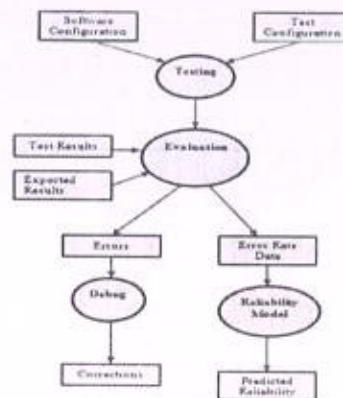
Keywords: Testing, bugs, unit testing, framework testing

I. INTRODUCTION

Programming testing is led to find out the nature of the item or administration under test. Programming testing can likewise give a goal, autonomous perspective on the product to permit the business to acknowledge and comprehend the dangers of programming execution. Testing strategies incorporate the way toward executing a program or application with the expectation of discovering programming bugs [1]. The testing of programming is a significant method for surveying the product to decide its quality. Since testing regularly expends 40 to half of improvement endeavors, and devours more exertion for frameworks that require more elevated levels of dependability, it is a huge piece of the product building. Testing is very significant territory of software engineering.

II. TEST INFORMATION FLOW

Testing is an action to assess the nature of programming and improving it by expelling blunders in it. Consequently, the objective of testing is systematical recognition of various classes of blunders in a base measure of time and with a base measure of exertion [6]. The data stream outline is as given underneath:-







III. DIFFERENT LEVELS OF TESTING

Tests are regularly assembled by where they are included the product advancement measure, or by the degree of explicitness of the test. Testing is associated with each phase of programming life cycle, yet the testing done at each degree of programming improvement is distinctive in nature and has various destinations.



Electrochemical sensor studies and optical analysis of developed clay based CoFe₂O₄ ferrite NPs


N. Raghavendra^a, H.P. Nagaswarupa^b  , T.R. Shashi Shekhar^a  , M. Mylarappa^c, B.S. Surendra^a, S.C. Prashantha^a, N. Basavaraju^a, C.R. Ravi Kumar^a, M.R. Anil Kumar^a


^a Department of Science, East West Institute of Technology, Bengaluru, 560091, India

^b Department of Studies in Chemistry, Shivagangothri, Davangere University, Davangere, 577007, India

^c Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts & Commerce, Bengaluru, 560009, Karnataka, India

Received 4 January 2021, Revised 23 January 2021, Accepted 23 January 2021, Available online 29 January 2021, Version of Record 5 February 2021.

 Check for updates

Show less 

 Outline |  Share  Cite

<https://doi.org/10.1016/j.sintl.2021.100083>

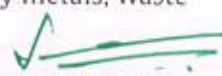
[Get rights and content](#)

[Under a Creative Commons license](#)

open access

Highlights

- CoFe₂O₄ and Clay/CoFe₂O₄ synthesized via chemical method have been investigated.
- The photocatalytic performance of Clay/CoFe₂O₄ was discussed under UV-light.
- Cyclic Voltammetry and extended their sensor activities towards chemical sensors.
- Clay/CoFe₂O₄ for their potential applications in detection of heavy metals, waste water treatment and electrochemical studies.


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Nobel Metal Decorated TiO₂ Catalyst Coated On Cordierite Monolith for High Turnover Frequencies in Carbon-Nitrogen Coupling Reactions

G.O. Obaiah^{a, b}, K.H. Shivaprasad^a, M. Mylarappa^{*c}, Shrikanth K bhat^b

^ADepartment of Chemistry, Vijayanagara Sri Krishna Devaraya University, Bellary -583104, India

^BResearch Center, Talent Development Center, Indian Institute of Science, Kudhapur, Chitradurga-577501

^CDepartment of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts & Commerce, Racecourse Road Bengaluru-560009, Karnataka, India

*Corresponding authors Email: K.H.Shivaprasad & M. Mylarappa

ABSTRACT: - A Pd-doped TiO₂ catalyst was used to control the reaction of many aryl-amines with an aryl halide with an amine. Catalyst Ti_{0.97}Pd_{0.03}O_{1.97} is effective in the C-N coupling reaction and can be re-used at least five times in this reaction without a major reduction in its Pd-doped catalyst; a series of stepwise sequences of Ti_{0.97}Pd_{0.03}O_{1.97} have been coated for cordierite monolith. The coating on cordierite, as observed from the XRD analysis, is nano-crystalline. The C-N bonding crystalline catalyst was used to synthesize aryl halides and amines. C-N products have been synthesized using spectroscopy with ¹H NMR, ¹³C NMR, and FTIR. This diagram shows a strong selectivity in the coupling to C-N. Turn-over Frequency (TOF) was observed twice for each high-dose reaction.

Keywords: - Ti_{0.97}Pd_{0.03}O_{1.97}, Buchwald-Hartwig, Amination, Recycling.

I. INTRODUCTION

In the past 30 years, there has been a gradual increase in the use of monoliths as catalyst supports. During this period, monoliths have mostly been used in environmental applications [1]. Some of the applications in which these benefits have proven useful include exhaust gas treatment [2-3]. Monolithic catalyst supports can be an attractive replacement for conventional carriers in heterogeneous catalysts. Monolithic structures, either metal or ceramic, consist of single blocks of small (0.5-4 mm) parallel channels with a catalytic wall. In the application of a monolithic catalyst, one should first determine what the requirements for the support are. The most common material for monolithic structures is cordierite and as ceramic material which consisting of magnesia, silica, and alumina in the ratio of 2:5:2), because this material is very well suited for the requirements of the automotive industry. The main reasons for this are that it has a high mechanical strength, high temperatures, temperature shocks, and has a low thermal expansion coefficient [4-6]. Cordierite fuel cells have been used in various ways, such as brake support, catalytic converter, hot gas, and air pressure, as well as have been removed from the water source. The cordierite monolith was designed for the application of their optical properties to produce a high volume of gas in contact with active additives, high geometry, low pressure, high operating power, short diffusivity, high thermal stability, low humidity, the expansion assemblies and water resistance [7-8].

There is a level of cordierite monolith needed to cover the layer of concrete, which increases the surface area and is used to connect with chemicals. This is known to be supported by a coating system [9-10]. Pd²⁺ ion covers the surface of solid material, and it might be possible to stabilize the actives of Pd type and cure faults. Pd doped nano particles are used in catalysis and are not only important for function [11-12] but also scientifically known for the relationship between catalytic behavior, particle size, and diffusion patterns, and information was surrounding [13-14]. Pd²⁺ catalyzed cross-coupling reactions have provided as a prevailing means for proficient carbon-carbon and carbon-heteroatom bond formations in the synthesis of pharmaceuticals, fine chemicals and advanced materials over the past decades [15-18]. The carbon-nitrogen coupling reaction has been extensively used in synthetic routes for pharmaceuticals and natural products [19]. However, little interest has been paid to its applications and advancement of polymer chemistry [20-22].

Facile Synthesis and Characterization of rGO Decorated NiFe₂O₄ Nano-composite Obtained from Waste Ni-Cd/Ni-MH Batteries

Mylarappa M^{1*}, Venkata Lakshmi V², Kantharaju S¹

¹Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru-560009, Karnataka, India;

²Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru-560083, Karnataka, India

ABSTRACT

The present study revealed the NiFe₂O₄/rGO composite synthesized from Ni-Cd/Ni-MH spent by hydrothermal method. The obtained NiFe₂O₄ nano particles was dispersed effectively on reduced graphene oxide and the obtained composite was subjected to X-Ray powder diffraction (XRD) to know the particle crystallinity, size and structural aspects. The nano sized NiFe₂O₄ and NiFe₂O₄/rGO nano composite were exposed to study the surface particle morphology by using Field emission Scanning Electron Microscopy (FESEM). The elements present in the sample was analyzed by using Energy Dispersive X-Ray analysis (EDX), the functional groups identification was done by Fourier Transform Infrared Spectrometer (FTIR) and the thermal stability was studies by using Thermogravimetry analysis.

Keywords: Waste battery; NiFe₂O₄; NiFe₂O₄/rGO; Characterization; Thermal analysis

INTRODUCTION

Nickel ferrite (NiFe₂O₄) nanocrystalline is one of the most vital ferrites among alternative ferrites from the spent battery because of most favorable uses in Ferro fluids, gas sensors, storage devices, catalysts and microwave devices [1-7]. Recently, extensive consideration has been paid on NiFe₂O₄ with variable size, morphology and shape as well analogous applications were studied [8,9]. In the synthesis of NiFe₂O₄, both chemical and physical methods have been established with different surface morphology. Compared to physical methods, the chemical methods have benefits such as large scale production, low cost and reaction taking place at very low temperature. The nano structured NiFe₂O₄ has been prepared by different process like sonochemical, polymeric precursor, mechanical alloying, hydrothermal, and co-precipitation methods [10-14].

The literature shows that a few works on the surface morphology controlled preparation of the NiFe₂O₄ nano particles. Newly, fabricated NiFe₂O₄ nano sheets using chemical method by Gunjekar et al. [15]. Chu et al. synthesized nano cubes and nanorods of NiFe₂O₄ through hydrothermal process [16]. Zhang et al. via polyethylene glycol method prepared NiFe₂O₄ nano particles [17], the hollow sphere NiFe₂O₄ nano rods and their magnetic properties was studied by Chen L et al. [18]. Also several studies

have concentrated on the synthesis of spinel nano ferrites because of their quantum confinement effects, both chemical and physical properties and their surface effects.

The nano NiFe₂O₄ have AB₂O₄ structure. In this structure, O specifies the oxygen anion site and A and B shows tetrahedral and octahedral cation sites [19]. The nickel ions (Ni²⁺) are located in B sites and iron ions (Fe³⁺) are equally dispersed between A and B sites. It is well known that combined metal oxide nano particles are seemly very attractive to making the electrode materials due to their controlling morphology and size, high surface energy, attractive structural, magnetic and electronic activities, which improve their catalytic performance [20-22].

In the synthesis of nano NiFe₂O₄ reduced graphene oxide (rGO) was selected as solid subsidiary material to keep the nano NiFe₂O₄ from aggregation. The rGO based nano composite materials will have increased electrochemical performance like reversibility, capacitive action and cycling stability. The rGO doped nano composite have been widely used as anodes for rechargeable batteries and some recent studies shows the production of rGO based metal-oxide anode materials have equitably good development [23,24]. For example, MgFe₂O₄/rGO composites was displayed excellent cycling stability and rate capability synthesized by Zhang et al. and SnO₂/rGO nano hybrid exhibited that electrochemical Na-storage

*Corresponding to: Mylarappa M, Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru-560009, Karnataka, India, Tel: +91-9742413751; E-mail: mylu4mkallihatti@gmail.com

Received: July 25, 2020; Accepted: August 27, 2020; Published: September 03, 2020

Citation: Mylarappa M, Venkata Lakshmi V, Kantharaju S (2020) Facile Synthesis and Characterization of rGO Decorated NiFe₂O₄ Nano-composite Obtained from Waste Ni-Cd/Ni-MH Batteries, Int J Waste Resour 10: 385. doi: 10.35248/2252-5211.20.10.385.

Copyright: 2020 © Mylarappa M, et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Application of IoT in libraryRamesha A V ^{Ph.D}

Librarian

Email id : librarian.sjrc@gmail.com

SJRC College of Science, Arts and Commerce, Bengaluru Central University, Bengaluru

Hemanth Kumar K G ^{MCA}

Lecturer

Email : hemanth.blr@gmail.com

SJRC College of Science, Arts and Commerce, Bengaluru Central University, Bengaluru

Ravichandra S M.Phil

Librarian

raviaps71@gmail.com

APS College of Engineering, Bengaluru

Abstract :

Web has taken a monster jump forward from 'Web of correspondence' to 'Web of Things', making it conceivable to interface items and move information with or without human mediation. This is probably going to change the manner in which we live. Like other help enterprises, it has an immense potential in improvement of library administrations. An endeavor has been made to clarify what is 'Web of Things', the innovation and its development, models from administration businesses and conscious on it's conceivable sway on libraries and distinguish potential library regions where it very well may be implemented viably.

Keywords: Internet of Things; libraries; RFID; beacons

I. Introduction

Today, Internet has involved an unmistakable situation in different circles of human life. Its development is led by cell phones, which have progressively become part of current living as everybody wishes to be associated with the Internet constantly. This has gotten conceivable attributable to expanding accessibility of broadband Internet association at a decreased cost, accessibility of more gadgets with Wi-Fi abilities, innovation moderateness at lower cost and high entrance of PDAs. The mechanical improvements have made it workable for us to get to plenty of administrations, for example, discovering data, shopping, booking tickets, exploring through guides and correspondence over email, web-based media and versatile applications. This all brought about Internet for correspondence and getting to specific administrations over

Home ([./Index.aspx](http://Index.aspx)) > Journals (index.aspx) > Article

Search Title, Keywords, Author, etc.

Advances in Pure Mathematics (journalarticles.aspx?journalid=513) > Vol.10 No.5, May 2020 (home.aspx?issueid=13870#100178)

Projective Changes between Generalized (α, β) -Metric and Randers Metric

Pradeep Kumar (articles.aspx?searchcode=Pradeep+Kumar&searchfield=authors&page=1)¹, Madhu T. S. (articles.aspx?searchcode=Madhu+T.+S.&searchfield=authors&page=1)², Sharath B. R. (articles.aspx?searchcode=Sharath+B.+R.&searchfield=authors&page=1)³

¹Department of Mathematics, School of Engineering, Presidency University, Bengaluru, India (articles.aspx?searchcode=Department+of+Mathematics%2c+School+of+Engineering%2c+Presidency+University%2c+Bengaluru%2c+India&searchfield=affs&pag)

²Department of Mathematics, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru, India (articles.aspx?searchcode=Department+of+Mathematics%2c+Sri+Jagadguru+Renukacharya+College+of+Science%2c+Arts+and+Commerce%2c+Bengaluru%2c+)

³Department of Mathematics, Vemana Institute of Technology, Bengaluru, India (articles.aspx?searchcode=Department+of+Mathematics%2c+Vemana+Institute+of+Technology%2c+Bengaluru%2c+India&searchfield=affs&page=1).

DOI: 10.4236/apm.2020.105018 (<https://doi.org/10.4236/apm.2020.105018>) PDF

([//www.scirp.org/pdf/apm_2020051313524273.pdf](http://www.scirp.org/pdf/apm_2020051313524273.pdf)) HTML ([//www.scirp.org/journal/paperinformation.aspx?paperid=100178](http://www.scirp.org/journal/paperinformation.aspx?paperid=100178)) XML ([//www.scirp.org/xml/100178.xml](http://www.scirp.org/xml/100178.xml)) 399 Downloads 1,066 Views Citations (papercitationdetails.aspx?paperid=100178&JournalID=513)

paperid=100178) XML ([//www.scirp.org/xml/100178.xml](http://www.scirp.org/xml/100178.xml)) 399 Downloads 1,066 Views Citations (papercitationdetails.aspx?paperid=100178&JournalID=513)

Abstract

Projective change between two Finsler metrics arises from Information Geom-etry. Such metrics have special geometric properties and will play an important role in Finsler geometry. The purpose of the present paper is to find a relation to characterize the projective change between generalized (α, β) -metric $F = \mu_1\alpha - \mu_2\beta - \mu_3\frac{\beta^2}{\alpha}$ (μ_1, μ_2 and $\mu_3 \neq 0$ are constants) and Randers metric $\bar{F} = \bar{\alpha} + \bar{\beta}$, where α and $\bar{\alpha}$ are two Riemannian metrics, β and $\bar{\beta}$ are 1-forms. Further, we study such projective change when generalized (α, β) -metric F has some curvature property.

Keywords

Finsler Space with $(\alpha$ (articles.aspx?searchcode=Finsler+Space+with+%ce%b1&searchfield=keyword&page=1&skid=0), $\beta)$ -Metric (articles.aspx?searchcode=%ce%b2+-Metric&searchfield=keyword&page=1&skid=0), Projective Change (articles.aspx?searchcode=+Projective+Change&searchfield=keyword&page=1&skid=0), Locally Projectively Flat (articles.aspx?searchcode=+Locally+Projectively+Flat&searchfield=keyword&page=1&skid=0), Randers Metric (articles.aspx?searchcode=+Randers+Metric&searchfield=keyword&page=1&skid=0)

Share and Cite:

Kumar, P., S., M. and R., S. (2020) Projective Changes between Generalized (α, β) -Metric and Randers Metric. *Advances in Pure Mathematics*, **10**, 312-321. doi: 10.4236/apm.2020.105018 (<https://doi.org/10.4236/apm.2020.105018>).

1. Introduction

The concept of projective change between two Finsler spaces has been studied by many geometers [1] - [6]. An interesting result concerned with the theory of projective change was given by Rapsak [7]. He proved necessary and sufficient conditions for projective change. S. Bacsó and M. Matsumoto [8] discussed the projective change between Finsler spaces with (α, β) -metric. H. S. Park and Y. Lee have studied on projective changes between a Finsler space with (α, β) -metric and the associated Riemannian metric.

In Riemannian geometry, two Riemannian metrics α and $\bar{\alpha}$ on a manifold M are projectively related if and only if their spray coefficients have the relation $G^i_{\bar{\alpha}} = \bar{G}^i_{\alpha} + P_0 y^i$, where $P = P(x)$ is a scalar function on M and $P_0 = P_{,k} y^k$. In Finsler geometry, two Finsler metrics F and \bar{F} on a manifold M are called projectively related if $G^i = \bar{G}^i + P y^i$, where G^i and \bar{G}^i are the geodesic coefficients of F and \bar{F} , respectively and $P = P(x, y)$ is a scalar function on the slit tangent bundle TM_0 .

Submit your Manuscript (http://papersubmission.scirp.org/login.jsp?sub=true&utm_campaign=submit&utm_source=www.scirp.org&utm_medium=bottom_submit)

In [9], we introduced the generalized (α, β) -metric

Sign up (http://papersubmission.scirp.org/users/showAddUser?utm_campaign=signup&utm_source=www.scirp.org&utm_medium=bottom_signup)
 $F = \mu_1\alpha + \mu_2\beta + \mu_3\frac{\beta^2}{\alpha}$ (μ_1, μ_2 and $\mu_3 \neq 0$ are constants)

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009. (1.1)

ON FINSLERIAN HYPERSURFACE WITH GENERALIZED (α, β) -METRIC

Pradeep Kumar¹ and Madhu T. S.²

¹Department of Mathematics, School of Engineering, Presidency University,
Itgalpura, Bengaluru-560064, Karnataka, INDIA.

²Department of Mathematics, Sri Jagadguru Renukacharya College of Science, Arts and
Commerce, Anand Rao Circle, Bengaluru-560009, Karnataka, INDIA.

mail Id: pradeepget@gmail.com and madhuts2327@gmail.com

Abstract: The purpose of the present paper is to investigate certain geometrical properties of hypersurface of a Finsler space with generalized (α, β) -metric $L = \mu_1\alpha + \mu_2\beta + \mu_3\frac{\beta^2}{\alpha}$, where μ_1, μ_2 and μ_3 are constants and $\mu_1 \neq 0$. Further, we prove this hypersurface to be a hyperplane of 1st and 2nd kind.

Mathematics Subject Classification (2010): 53B40, 53C60.

Key Words: Finsler space, (α, β) -metric, Hypersurface, Induced Cartan connection, Hyperplane of 1st, 2nd and 3rd kind.

1. Introduction

Let $F^n = (M^n, L)$ be an n-dimensional Finsler space, i.e., an n-dimensional differential manifold M^n equipped with a fundamental function $L(x, y)$. The concept of an (α, β) -metric $L(\alpha, \beta)$ was introduced by M. Matsumoto [7] and has been studied by many authors [3, 4, 18]. A Finsler metric $L(x, y)$ is called an (α, β) -metric $L(\alpha, \beta)$ if L is a positively homogeneous function of α and β of degree one, where $\alpha^2 = a_{ij}(x)y^i y^j$ is a Riemannian

1

International Journal of Advanced Science and Technology

[Home](#) [Editorial Board](#) [Journal Topics](#) [Archives](#) [About the Journal](#) [Submissions](#)

[Privacy Statement](#) [Contact](#)

Search

[Home](#) / [Archives](#) / [Vol. 29 No. 3s \(2020\): Vol 29 No 3s \(2020\) \(Special Issue\)](#) / [Articles](#)

SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF UNDOPED CEO2 AND PD DOPED CEO2 FOR PHOTO CATALYTIC STUDIES UNDER SUNLIGHT AND UV-LIGHT IRRADIATION.

G.O. Obaiah, K.H. Shivaprasad, **M. Mylarappa**

Abstract

The main objective of the analysis is concentrated on the preparation and fabrication of doped and undoped CeO₂ nanoparticles by solution combustion technique to taken glycine as fuel. The correct size and morphology of the doped metal compounds were studied Scanning microscope (SEM). The composition of ceria (CeO₂) and palladium substituted Ceria (Ce_{0.98}Pd_{0.02}O₂) was confirmed from the powder X-ray Diffractometer (PXRD). The functional groups were analyzed by Fourier transfer infrared spectroscopic analysis, XRD, RR, UV-Vis, and XPS. Photocatalytic properties of CeO₂ and palladium doped CeO₂ (Ce_{0.98}Pd_{0.02}O₂) nanoparticles (NPs) were studied using the radiation conjugation of red (CR) under UV light and sunlight exposure. Based on the XRD analysis, CeO₂ and Pd doped CeO₂ NPs were formed as crystal structures. CeO₂ and Pd doped CeO₂ showed excellent Photocatalytic activity by degrading more than 92% of the CR color in the intervals of 120 min under UV light and sunlight.

PDF



PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

How to Cite

M. Mylarappa, G. O. K. S. (2020). SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF UNDOPED CEO2 AND PD DOPED CEO2 FOR PHOTO CATALYTIC STUDIES UNDER SUNLIGHT AND UV-LIGHT IRRADIATION. *International Journal of Advanced*

Surface, Temperature and Optical Properties Pd-TiO₂ Doped PVA Nanocomposite

B. Guruswamy¹, V. Ravindrachary^{1,*}, C. Shruthi¹, M. Mylarappa², G.O. Obaiah³

¹Department of Physics, Mangalore University, Mangalagangothri-574199, India

²Research centre Dept. of Chemistry, AMC Engineering College, Bangalore-560083, India.

³Departments of Chemistry, VSK University, Bellary-583104, India

*email: vravi2000@yahoo.com

Keywords: PVA, Pd-TiO₂, FTIR, UV-Vis, TGA, SEM.

Abstract. The effect of Pd-TiO₂ nano-particle doping on structural, optical and thermal properties of the PVA polymer has been investigated using FTIR, UV-Visible, TGA and FESEM analysis. Nano sized Pd-TiO₂ particles were synthesized using standard method. Pure and Pd-TiO₂/PVA nanocomposite films were prepared using solution casting technique. The FTIR study confirmed that the Pd-TiO₂ nano-particles interacts with the OH group of PVA polymer and forms the complex. The presence of these complexes affects the optical and thermal properties the composite. The change in the optical properties was studied using UV-Vis absorption method. The effect of doping on the thermal properties was studied using TGA method and the modified surface morphology using FESEM.

Introduction

In recent years the polymer composite have attracted the scientific and technologists because of their vast applications. This is mainly due to the fact that the physical and chemical properties needed for specific application may be obtained by adding or doping with some suitable dopant. It is known that the change in the properties is mainly depends on the type and chemical nature of polymer, size and nature of the dopant as well as the way in which the dopant interacts with the host polymer. Hence among the dopants nanoparticles are of great interest due to their extremely small size and large surface-to-volume ratio, which lead to both chemical and physical differences in their properties compared to bulk. It is observed that doping a polymer with a nanoparticle has significant effect on their physical properties including optical, structural, electrical and thermal properties. In particular the physical properties of inorganic nanoparticles are dominated by the special confinement of excitations. Hence the inorganic nanocrystals embedded within a polymers matrix have attracted the scientific community due to their potential applications in nonlinear optics such as in photonic devices. Here the polymer matrix embedded with nano sized particle has several important roles to play. It provides the confinement potential in view of its larger band-gap relative to the material [1-4].

Poly vinyl alcohol (PVA) is the water soluble and synthetic polymer with high dielectric strength and charge storage capacity properties [1]. It has been studied extensively due to its several interesting physical and chemical properties which are useful for scientific applications. Various research groups have studied the effect of doping on optical, thermal, structural and other micro structural properties of PVA films doped with different dopants. These studies shows that the properties likes crystallinity, structural order, thermal stability, electrical and optical behaviour of the polymer are affected by doping which depends on the interaction between the dopant and the polymer to develop particular application. Pd-TiO₂ is a monoclinic and p-type semiconductor with a narrow band gap also constant paramagnetic susceptibility at low temperature [2] and it has been used in various applications including solar cells, sensors, etc. [3,5]. In view of this here we are reporting the effect of Pd-TiO₂ nano-particle doping on optical, thermal and morphological properties of PVA films.

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bangalore 560 009

Effect of SnO₂ Nanoparticle Doping on Structural, Morphological and Thermal Properties of PVA-PVP Polymer Blend

B Guruswamy¹, V Ravindrachary^{1*}, C Shruthi¹, Mylarappa M²

¹Department of Physics, Mangalore University, Mangalagangothri-574199, India

²Research centre Dept. of Chemistry, AMC Engineering College, Bangalore-560083, India.

*Email: vravi2000@yahoo.com

Keywords: PVA-PVP Polymer blend, SnO₂ Nanoparticles, XRD, SEM, AFM, DSC

Abstract: The n-type semiconductor SnO₂ nanoparticles were synthesised using standard route and the effect of this nanoparticle doping on structural, morphological and thermal properties of PVA-PVP polymer blend has been investigated. Pure and PVA-PVP/SnO₂ Nanocomposite films were prepared using solution casting technique. The powder X-ray diffraction result shows that the crystalline nature of the blend increases with doping level. FESEM study shows that the surface morphology of the polymer nanocomposite varies with doping level. AFM study reveals that in the nano-composite films, the average roughness changes with dopant concentration. The DSC studies on the samples were performed from 40°C to 400°C under nitrogen atmosphere and it shows that the thermal properties of the blend changes with doping concentration.

Introduction

In recent years the doped/blended polymers have attracted the scientific and technological researchers due to utilities in all fields. Here it is well known that the desired property of a polymer for a specific application can be achieved through blending and doping. Here the polymer blending is considered to be one of the most important and modern way of developing new polymeric materials with a wide variety of physical and chemical properties. The major advantage of polymer blending is that the properties of a final product can be tailored suitably for specific application as these blend properties are mainly depends on the characteristics of the parent homo polymers and the composition. Doping a polymer is another way of tailoring the physical and chemical properties of polymer for specific applications. Here the change in the property of the polymer upon doping is mainly depends on the type of the polymer, chemical nature and size of the dopant and the way in which the dopant interacts with the host polymer. Particularly the nanoparticle doped polymers are attracted much attention due to the various potential applications including sensor properties. Here the combination of inorganic nanoparticles and an organic polymer provides a simple route to stable and processable composite materials, which integrating the promising properties of both components of polymer and dopant [1-4].

Poly vinyl Pyrrolidone (PVP) is an amorphous polymer which is hygroscopic in nature and it attains complex formation ability, environmentally stable, easy processability, modest electrical conductivity, and more charge transport mechanism, these chemical structures induces extreme changes in electronic properties. Poly vinyl alcohol (PVA) is another superior polymer with semi crystalline nature having some interesting properties such as water soluble, synthetic and biocompatible non toxic, odourless, film formation ability and adhesive nature which are very much essential for various applications in biomedical field. When PVA/PVP blend is formed, the interactions between the carbonyl group of PVP and the hydroxyl group of PVA takes place through the intermolecular hydrogen bonding which results in the formation of new structure. When such a blend is doped with metal oxide nanoparticles, microstructure and other macroscopic properties of the blend are altogether different from parent properties of the film. These films are useful in the field of electronic devices such as liquid crystal displays, photovoltaic devices including high energy

PRINCIPAL

Sri Jagadguru Renukacharya College

of Science, Arts & Commerce

Bengaluru-560 009.

Recycling and Reusing of Li_2CO_3 and $\text{Co}(\text{OH})_2$ from Waste Lithium ion Batteries for Energy Storage and Thermal Studies

Mylarappa M^{1,2*}, Venkata Lakshmi V¹ and Kantharaju S³

¹Research centre, Department of Chemistry, AMC Engineering College, Bengaluru, Karnataka, India

²Department of Studies and Research in Chemistry, B.H Road, Tumkur University, Karnataka, India

³Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts and Commerce Bengaluru, Karnataka, India

***Corresponding author:** Mylarappa M, Research centre, Department of Chemistry, AMC Engineering College, Bengaluru-560083, Karnataka, India; Department of Studies and Research in Chemistry, B.H Road, Tumkur University Tumkur-572103, Karnataka, India, Tel: +919742413751, Email: mylu4mkallihatti@gmail.com

Citation: Mylarappa M, Venkata Lakshmi V, Kantharaju S (2019) Recycling and Reusing of Li_2CO_3 and $\text{Co}(\text{OH})_2$ from Waste Lithium ion Batteries for Energy Storage and Thermal Studies. J Waste Manag Disposal 2: 301

Article history: Received: 12 July 2019, Accepted: 09 September 2019, Published: 11 September 2019

Abstract

The present study revealed the recycling and reusing of Li_2CO_3 and $\text{Co}(\text{OH})_2$ obtained from waste lithium ion batteries using eco-friendly leaching materials (oxalic acid and citric acid) and their energy storage and thermal properties were studied. The oxidation states, composition and chemical formula of elements in the dry powder were analyzed using X-ray photoelectron spectroscopy (XPS). The particle size and surface morphologies were done by using X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM). The Energy Dispersive X-Ray analysis (EDAX) and Fourier Transform Infrared Spectrometer (FTIR) were employed to know the chemical constituents and functional groups identification in the samples. The obtained Li_2CO_3 and $\text{Co}(\text{OH})_2$ particles from waste batteries were further used to study their energy storage and thermal properties.

Keywords: Waste LIBs; Li_2CO_3 ; $\text{Co}(\text{OH})_2$; Energy storage; Thermal Studies

List of abbreviations: LIBs: Li-Ion Batteries; EDAX: Energy-Dispersive X-Ray Spectrometer; OA: Oxalic Acid; CA: Citric Acid; SEM: Scanning Electron Microscopy; FTIR: Fourier Transform Infrared Spectroscopy; XRD: X-Ray Diffraction Analysis; XPS: X-Ray Photoelectron Spectroscopy; CV: Cyclic Voltammetry; EIS: Electrochemical Impedance Spectroscopy; Rct: Charge Transfer Resistance; Cdl: Double-Layer Capacitance; NMP: N-Methyl-2-Pyrrolidone; PVDF: Polyvinylidene Fluoride; ICP-OES: Inductive Coupled Plasma-Optical Emission Spectrometry; TGA: Thermal Gravimetric Analysis; DSC: Differential Scanning Calorimeter; DTA: Differential Thermal Analysis; PTFE: Polytetrafluoroethylene; SF: Stacking Fault; ϵ : Strain; δ : Dislocation Density; FWHM: Full Width At Half Maximum; HF: Hydrogen Fluoride; Tg: Glass Transition Temperature; GCD: Galvanostatic Charge-Discharge; ΔV : Potential Window; Ip: Peak Current; D: Diffusion Co-Efficient; W: Warburg Impedance; A: Active Surface Area; EO: Oxidation potential; ER: reduction potential; Δt : Discharge time; Cs: Specific Capacitance; E: Energy Density; P: Power Density

Introduction

Nowadays, it is necessary to minimize the utilization of batteries such as Li-ion, Ni-Cadmium, lead acid and alkaline type of batteries and these batteries contains hazardous metals (Li, Co, Ni, Cd, and Zn, Mn). The Li-ion batteries (LIBs) are the electronic wastes have developed quickly due to operation of new techniques in electronic devices and energy storage devices [1-3].

The usage of these batteries in day to day life increases at worldwide. The LIBs are used as power sources in mobile telephone, cameras, computers and other modern life purposes due to their light weight, high voltage, small self-discharge rates, good performance and high energy density [4-7]. On the other hand, the waste LIBs are not only containing valuable metal but also produce large amounts of metal-containing hazardous waste to the soil, air and water sources in the environment [8]. Moreover, when comes in contact with the industrial waste and sewage, it percolates into the soil to water bodies [9-10].

Discarded Li-ion batteries are defined as hazardous waste by every county and causes severe damage to the environment and public health [11]. On the other hand waste batteries contain valuable metals like Co, Li, Mn and Ni [12]. In this regard, the recycling and re-use of Li and Co from waste Li-ion batteries can take enormous economic profits, environmental protection and resource conservation. Hence, development of recycling technologies for spent LIBs has attracted great attention, both for environmental protection and resource conservation [13]. The recovery as well as recycling of Li and Co from the waste batteries will not only



Recovery of Mn-Zn ferrite from waste batteries and development of rGO/Mn-Zn ferrite nanocomposite for water purification

M. Mylarappa^a, V. Venkata Lakshmi^a, K.R. Vishnu Mahesh^b, H.P. Nagaswarupa^c, N. Raghavendra^d

^a Research Centre, Department of Chemistry, AMC Engineering College, (Affiliated to Tumkur University), Bannerghatta Road Bengaluru 560083, Karnataka, India

^b National Assessment and Accreditation Council, (An Autonomous Institution of the University Grants Commission), Bangalore 560072, Karnataka, India

^c Research Centre, Department of Science, East West Institute of Technology, Bengaluru 560091, Karnataka, India

^d CMRTU, RV College Campus, Bengaluru 560059, Karnataka, India

Available online 8 April 2019, Version of Record 8 April 2019.

Show less ^

Outline | Share | Cite

<https://doi.org/10.1016/j.matpr.2019.02.157>

[Get rights and content](#)

Abstract

In present paper the recovery of Mn-Zn ferrite nano-particles from waste batteries by using acid dissolution and ferrite process were studied. The recovered Mn-Zn ferrite nano-particles were decorated on rGO by using facile solvothermal method. The prepared material were characterized by X-ray powder diffraction (XRD) to study particle size and crystallinity, the morphology of the particles were analyzed by using Scanning Electron Microscopy (SEM), functional group were observed using Fourier Transform Infrared Spectrometer (FTIR) and band gap energy were examined by UV-Visible spectrometer. Graphene oxide used to eliminate the pollutants present in the wastewater. The developed material used as an adsorbent for the removal of ionic dye in acid orange 88. The Mn-Zn ferrite nano-particles decorated with rGO showed a superior photocatalytic activity compared to that of Mn-Zn ferrite nano-particles.

[Previous](#)

[Next](#)

Keywords


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

ROLE OF INNOVATION IN TEACHING IN INCULCATING HUMAN VALUES

Kavitha C

Abstract

We are in a society where we attract students from various strata of society into urban or semi-urban institutions, mostly. Curriculum is framed by a team of so called experts, who may have their own agenda to consider and may not take into picture ground socio-economic reality. System of education needs to be localized. It should take into consideration not only students requirements and abilities but also make an effort to give a strong intricate value of what they are learning through appropriate problem solving skills. On the other hand, in this race towards better economy, values might take a backseat. Students should be allowed to pursue their dream and not somebody else's. This might deter corrupt mind. Here is where teacher can play the role of a mentor.

Keywords:

Curriculum, students,
skill, mentor,
economy.

Author correspondence:

Kavitha C.

ktodalbagi68@gmail.com

Asst. Prof., Dept. of Mathematics

Sri Jagadguru Renukacharya College

#9, Race Course Road, Anandrao Circle, Bangalore-09

Literacy in itself is no education. Literacy is not the end of education or even the beginning. By education I mean an all-round drawing out of the best in the child and man-body, mind and spirit.



PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

25



Fabrication and Hierarchical Structure of ZnO Nano Particle Using Green Fuels: Cyclic Voltammetry and Impedance Analysis

K.N. Shravana kumara^{a,b}, H.P. Nagaswarupa^a  , M. Mylarappa^c, D.M.K. Siddeswara^d, K.R. Vishnu Mahesh^e, N. Raghavendra^f

^a Research Centre, Department of Science, East West Institute of Technology, Bengaluru-560091, Karnataka, India

^b Research and Development Centre, Bharathiar University, Coimbatore-641046, Tamilnadu, India


^c Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road Bengaluru-560083, India


^d Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, Karnataka, India

^e National Assessment and Accreditation Council, Bangalore -560072, Karnataka, India

^f CMRTU, RV College of Engineering, Bengaluru-560059, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less 

 Outline |  Share  Cite

<https://doi.org/10.1016/j.matpr.2018.06.627>

Get rights and content

Abstract



The main objective of the paper is mainly focused on the synthesis of ZnO nano particle by low temperature solution combustion method by using Vetiver, Palma Rosa and Urea used as a fuel. The synthesized nano particles were characterized by using different techniques such as the phase compositions of the synthesized nano particles are confirmed from X-ray diffract meter (XRD). The surface morphology of the synthesized nano particles is examined using Scanning Electron Microscopy (SEM). Elemental composition of the metal is analysed by Energy Dispersive X-Ray spectroscopy (EDAX). Functional groups attachments are confirmed by using Fourier transform infrared spectroscopy (FTIR). The synthesized ZnO nano particles were used to study Cyclic Voltammetry (CV) and electrochemical impedance spectra (EIS).



Materials Today: Proceedings




Volume 5, Issue 10, Part 3, 2018, Pages 22466-22472

A Potential Use γ -Al₂O₃ Coated Cordierite Honeycomb Reinforced Ti_{0.97}Pd_{0.03}O₂₋₈ Catalyst for Selective High Rates in coupling reactions

G.O. Obaiah^{a,b}, K.H. Shivaprasad^a,  , M. Mylarappa^{c,d}, K. Srikanth bhat^b^a Department of chemistry, Vijayanagara Sri Krishna Devaraya University, Ballary 583104, Karnataka, India^b Research centre, Talent development centre, IISC, Kudhapur, Chitradurga 577501, Karnataka, India^c Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road, Bengaluru-560083, Karnataka, India^d Department of Studies and Research in Chemistry, Tumkur University, B.H Road, Tumkur, Karnataka, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less ^

 Outline |  Share  Cite<https://doi.org/10.1016/j.matpr.2018.06.617>

Get rights and content

Abstract



The current work was mainly focused on a potential use of γ -Al₂O₃ coated cordierite honeycomb reinforced Ti_{0.97}Pd_{0.03}O₂ catalyst for selective high rates in coupling reactions. The Titanium isopropoxide [Ti(OC₃H₇)₄], PdCl₂ and glycine are the precursors used for the synthesis of Ti_{0.97}Pd_{0.03}O₂₋₈. In typical coating of (3 % atom Pd on TiO₂), 9.7 mmol of TiO(NO₃)₂ solution, 0.3 mmol PdCl₂ and 11 mmol glycine were dissolved to make a solution. The obtained sample of the monolith before and after coating and catalytic activity were studied by using PXRD, IR, and Mass spectroscopy. TEM and SEM. The surface image of the catalyst coated monolith was characterized by FEI Quanta scanning electron microscope. In the coupling reactions have been investigated in view of their potential use in the industrial passive autocatalytic recombines (PAR). The recombination reaction of hydrogen and oxygen has been monitored using Ti_{0.97}Pd_{0.03}O₂₋₈ catalyst



Materials Today: Proceedings

Volume 5, Issue 10, Part 3, 2018, Pages 22526-22535

Influence of Nanoclays to the Matrix of Vinylester/Glass Composites on their Fire Behavior Properties

N. Raghavendra^a  , H.N. Narasimha Murthy^b, K.R. Vishnu Mahesh^c, M. Mylarappa^d, D.M. K.Siddeswara^e, M. Krishna^b

^a CMRTU, RV College of campus, Bengaluru 560059, Karnataka, India

^b Department of Mechanical Engineering, R V College of Engineering, Bengaluru 560059, Karnataka, India




^c National Assessment and Accreditation Council, An Autonomous Institution of the University Grants Commission, Bangalore 560072, Karnataka, India


^d Research Centre, Department of Chemistry, AMC Engineering College, Tumkur University, Bannerghatta Road, Bengaluru 560083, Karnataka, India


^e Department of Chemistry, Jyothi Institute of Technology, Bengaluru 560062, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less 

 Outline |  Share  Cite

<https://doi.org/10.1016/j.matpr.2018.06.624> 

Get rights and content 

Abstract





This paper presents the influence of dispersing Cloisite-Na and Cloisite-15A Nanoclays in vinylester/glass on their fire retardation behaviour. Cloisite-Na and Cloisite-15A in 1 to 5 wt % was dispersed in vinylester using the combination of ultrasonication and twin screw extrusion. Nanoclay/vinylester/glass specimens were fabricated using hand lay-up technique. XRD results of Nanoclay/vinylester gel coat showed exfoliation of Nanoclay up to 4 wt % loading. Glass transition temperature of Nanoclay /vinylester increased monotonically with increase in Nanoclay loading. Limiting oxygen index of Nanoclay /vinylester/glass specimens decreased monotonically with the addition of Cloisite-Na and Cloisite-15A. TGA study showed that the thermal degradation behavior improved in addition of nanoclay in vinylester







Materials Today: Proceedings

Volume 5, Issue 10, Part 3, 2018, Pages 22614-22620

Synthesis and Characterization of Ag Nano Particle by Solution Combustion Method and their Biological Studies

N. Shobha^a  , N. Nanda^b  , Aladahalli S. Giresha^c, K.K. Dharmappa^c, B.M. Nagabhushana^d, M. Mylarappa^e^a Department of Chemistry, Maharani's science college for women, Bangalore 560 001, India^b Department of Chemistry, BMS College of women, Bangalore 560 019, India^c Department of Studies and Research in Biochemistry, Post Graduate Centre, Mangalore University, Kodagu, Karnataka, India^d Department of Chemistry, M.S. Ramaiah Institute of Technology, Bangalore- 560054, India^e Research Centre, Department of Chemistry, AMC Engineering College, (Affiliated to Tumkur University), Bannerghatta Road, Bengaluru-560083, Karnataka, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less  Outline |  Share  Cite<https://doi.org/10.1016/j.matpr.2018.06.635>

Get rights and content >



Abstract

In this paper we reported a facile, novel and low temperature method for the synthesis of Ag Nano powder. The Catharanthus roseus plant leaf extract was used as bio fuel and $\text{Ag}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ used as oxidizer at low temperature 400 ± 10 °C. Various analytical methods were used to characterize the powder such as powder X-ray diffraction (PXRD), scanning electron microscopy (SEM), Fourier transformer infrared spectroscopy (FTIR). The phase formation studies were evaluated using PXRD graph and all the diffraction peaks are well matched with cubic structure of Silver NPS Card No. JCPDS 65-2871. The average crystallite size estimated from the Debye-Scherrer equation is found to be 28 nm. SEM micrographs show the formation porous and agglomerated ZnO Nano powder. The FTIR spectrum confirms the M-O bond formation and purity of the product. An eco-friendly and simple method of solution combustion method by using bio-fuel synthesis of Silver nanoparticles is suggested so forth to apply for numerous applications like photocatalytic activities, biological activities and catalytic activities can be studied here. The IC_{50} were found to be 183.53 μg and 2.12 mg for DPPH and FRAP respectively. The anti-fungal activity ZnO NPs shows the maximum zone of inhibition against *A. Niger* (5 ± 0.5 mm) and *P. aeruginosa* (4 ± 0.4 mm) at 30 μg concentration.

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Photo Decomposition of Acid Orang 8 from Aqueous Solution by Using rGO/CNT/AgO Nano Composite

T. Venkatesh ^a, D.M.K. Siddeswara ^b, M. Mylarappa ^c, K.R. Vishnu Mahesh ^{d 1}  , H.P. Nagaswarupa ^e, N. Raghavendra ^f

^a Department of Chemistry, ACS College of Engineering, Bengaluru-560074, Karnataka, India

^b Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, Karnataka, India

^c Research Centre, Department of Chemistry, AMCEC, Bengaluru-560083, Karnataka, India




^d National Assessment and Accreditation Council Bangalore-560072, Karnataka, India

^e Research Centre, Department of Chemistry, EWIT, Bengaluru-560091, India

^f CMRTU, RV College of Engineering, Bengaluru-560059, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less 


 Outline |  Share  Cite


<https://doi.org/10.1016/j.matpr.2018.06.642> »

Get rights and content >

Abstract

In present study rGO produced by modified hummer's method, which is used for one pot synthesis of AgO incorporated rGO/AgO and rGO/CNT's/AgO composite. As synthesized rGO composites were studied using X-ray Diffractometer (XRD), Scanning Electron Microscopy (SEM) and Fourier-transform infrared spectroscopy (FTIR). After characterization and confirmation of these compounds were used as a Photo catalyst for the degradation of Acid Orange 8 dye. The catalytic degradation varied by the catalysts which we used in this study.

 Previous

Next 

Keywords

rGO; CNT; Acid Orange 8; Nanocomposite; Water purification; Photocatalytic

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

Effect of Oxalic Acid and Citric Acid on Recovery of Ni and Cd from Waste Batteries: Electrochemical and Thermal Investigation of Ni(OH)₂ Obtained from Leach Solution

Mylarappa M.^{1,2*}, Venkata Lakshmi V.^{1*}, Vishnu Mahesh K.R.^{3*}, Kantharaju S.⁴ and Sreenivasa S.²

1. Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road, Bengaluru-560083, Karnataka, INDIA

2. Department of Studies and Research in Chemistry, B.H Road, Tumkur University, Tumkur-572103, Karnataka, INDIA

3. National Assessment and Accreditation Council, Bangalore -560072, Karnataka, INDIA

4. Department of Chemistry, Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru-560091, Karnataka, INDIA
*mylu4mkallihatti@gmail.com, laxmimurthy@rediffmail.com, vishnumaheshkr@gmail.com

Abstract

In the present study, the recovery of Ni and Cd from waste Ni-Cd/Ni-MH batteries using eco-friendly materials like oxalic acid (OA) and citric acid (CA) by hydrothermal method were studied. The prepared Ni(OH)₂ from the leach liquor was used to investigate the electrochemical and thermal studies. The amount of Ni²⁺ and Cd²⁺ present in the leach solution was analysed by Inductive Coupled Plasma-Optical Emission Spectrometry (ICP-OES). The dry, washed battery powder and Ni(OH)₂ were characterized by using powder X-ray powder diffraction (PXRD), Scanning Electron Microscopy (SEM), Energy Dispersive X Ray analysis (EDX) and the functional groups attached were observed by using Fourier Transform Infrared Spectrometer (FTIR). The recovered material was further studied for Thermal analysis using Thermal Gravimetric Analysis (TGA), Differential Scanning Calorimeter (DSC) and Dynamic Thermal Analysis (DTA).

The CV measurements indicate that the reversibility of the electrode reaction increases whereas the EIS studies reveal that a reduction in the charge transfer resistance increases the double layer capacitance of the nickel electrode. From the electrochemical studies, Ni(OH)₂ with addition of ascorbic acid (AA) and citric acid (CA) were outstanding improvement in the electrochemical reversibility of the electrode redox reaction. The recovered nickel hydroxide also showed a higher proton diffusion co-efficient and a lower charge transfer resistance. These results suggested that Ni(OH)₂ possesses an enriched electrochemical response and thus can be recognized as a promising material for battery electrode or new pathways for the advanced novel materials for energy storage applications.

Keywords: Waste Battery, Leachants, Ni, Cd, Ni(OH)₂, Thermal studies, Energy storage application.

* Author for Correspondence

Introduction

Managing electronic waste (E-waste) is one of the most rapidly growing pollution problems worldwide. E-waste consists of a large variety of materials, out of which some are toxic as well as valuable metals that can contaminate the environment and threaten human health if not managed appropriately. E-waste has grown quickly due to dominating implementation of new technologies in electronics, consumer attractive designs and requirements of day-to-day life. Various batteries and accumulators are landfilled or incinerated instead of being collected and recycled.

Dumping of waste batteries represents an increasing environmental problem in terms of heavy metals (like Li, Co, Ni, Cd, Pb, Hg, Zn and Mn) content when these devices are disposed in very inadequate manner. Nickel-Cadmium (Ni-Cd) and Nickel-metal hydride batteries (Ni-MH) are few examples of typical rechargeable batteries. These batteries are used for various applications in cellular and cordless telephones, video cameras, portable power tools and laptop computers due to they deliver high currents. A major concern with these batteries leads to environmental pollution problem due to the presence of toxic metals such as Cd, Ni and Co.

Therefore, the recycling of these batteries has attracted great attention for economic benefits, environmental protection and resource preservation.^{1,2} Several methods for recovering the metals from used batteries such as pyro metallurgical, bio-hydrometallurgical and hydrometallurgical methods are found in the literature.³ The recovery of Ni and Cd from Ni-Cd/Ni-MH waste batteries using hydrometallurgical method is considered as one of the suitable process because of its high purity, low energy requirement, eco-friendly and minimal air emission. Acid leaching is a main technique for recovering valuable metals from waste battery precursor.

From environmental point of view, we have studied organic acids such as OA and CA used as leachants to recover of Ni and Cd from waste batteries. These two organic acids were selected because of their characteristics including easy natural degradation, low cost and absence of poisonous gases in the reaction process.⁴⁻⁷ Also, OA and CA were superior lea chants to H₂SO₄ and more than 95% of leaching

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Effective Elimination of Acid Red 88 from Aqueous Solution and Electrochemical Studies of rGO/AgO and rGO/CNT's/AgO Based Nanocomposite

Buy Article:

\$107.14 + tax
(Refund Policy)

ADD TO CART

BUY NOW

Authors: Siddeswara, D. M. K¹; Mahesh, K. R. Vishnu²; Mylarappa, M³; Venkatesh, T⁴; Nagaswarupa, H. P⁵; Kumara, K. N. Shravana¹; Kumar, K. J. Rudresh²; Raghavendra, N⁶;

Source: Advanced Science Letters, Volume 24, Number 8, August 2018, pp. 5821-5827(7)

Publisher: American Scientific Publishers

DOI: <https://doi.org/10.1166/asl.2018.12203>

... Abstract References Citations Supplementary Data Suggestions

In the present study rGO is synthesized by using modified hummer's method, which is used for the one pot synthesis of AgO incorporated rGO/AgO binary composite and multiwalled and AgO doped rGO/CNT's/AgO ternary composite. As synthesized rGO, binary and ternary composites were studied using X-ray Diffractometer (XRD), Elemental structure and surface morphology were examined using Energy Dispersive X-ray (EDX) analysis and Scanning Electron Microscopy (SEM). After characterization and confirmation of these compounds were used as a catalyst for the degradation of Acid red-88 dye. The catalytic degradation by the catalysts were performed. Electrochemical studies for the binary and ternary composites were done and showed that the ternary composite acts as a good electrode material for the energy storage application.

Keywords: Acid Red-88; Electrochemical; Malachite Green; Water Purification; rGO

Document Type: Research Article

Affiliations: 1: Research and Development Centre, Bharathiar University, Coimbatore 641046, Tamilnadu, India 2: Department of Chemistry, Dayananda Sagar College of Engineering, Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore 560078, Karnataka, India 3: **Research Center, Department of Chemistry, AMCEC, Bengaluru** 560083, Karnataka, India 4: Department of Chemistry, ACS College of Engineering, Bengaluru 560074, Karnataka, India 5: Research Centre, Department of Chemistry, EWIT, Bengaluru 560091, Karnataka, India 6: CMRTU, RV College Campus, Bengaluru 560059, Karnataka, India

Publication date: August 1, 2018

[More about this publication?](#)


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Development and Catalytic Application of Palladium Doped Titania ($Ti_{0.98}Pd_{0.02}O_2$) Through Low Temperature Solution Combustion Method

Buy Article:
\$107.14 + tax
(Refund Policy)

ADD TO CART

BUY NOW

Authors: Obaiah, G. O¹; Shivaprasad, K. H¹; Bhat, K. Srikanth¹; Hegde, M. S¹; Mylarappa, M²;

Source: Advanced Science Letters, Volume 24, Number 8, August 2018, pp. 6004-6007(4)

Publisher: American Scientific Publishers

DOI: <https://doi.org/10.1166/asl.2018.12235>

...

Abstract

📖

References

🗉

Citations

☰

Supplementary Data

+

Suggestions

The objective of the research was mainly focused on development of TiO_2 and Palladium doped TiO_2 by low temperature solution combustion method using glycine as fuel. Palladium substituted Titania ($Ti_{0.98}Pd_{0.02}O_2$) was prepared by taking stoichiometric amounts of titanyl nitrate, palladium chloride and glycine by solution combustion method. The accurate size and morphology of the doped metal oxide was studied Scanning electron microscope (SEM). The phase composition of the palladium substituted Titania ($Ti_{0.98}Pd_{0.02}O_2$) was confirmed from powder X-ray Diffractometer (PXRD). The functional groups are analyzed by Fourier transfer infrared spectroscopy. The doped metal oxide shows superior catalytic performance.

Keywords: Catalytic Application; $PdCl_2$; $Ti(OC_3H_7)_4$; $Ti_{0.98}Pd_{0.02}O_2$; TiO_2

Document Type: Research Article

Affiliations: 1: Department of Chemistry, Vijayanagara Sri Krishna Devaraya University, Bellary 583104, Karnataka, India 2: Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru 560083, Karnataka, India

Publication date: August 1, 2018

[More about this publication?](#)

We recommend

<https://www.ingentaconnect.com/contentone/asp/asl/2018/00000024/00000008/art00103>


PRINCIPAL
 Sri Jagadguru Renukacharya College
 of Science, Arts & Commerce
 Bengaluru-560 009.



Green Route Synthesis of MgO Nanoparticles Using *Murraya Koenigii* Leaf Extract: An Efficient Photo Catalyst for Malachite Green

Buy Article:

\$107.14 + tax
(Refund Policy)

ADD TO CART

BUY NOW

Authors: Kumara, K. N. Shravana ¹; Nagaswarupa, H. P ¹; Mahesh, K. R. Vishnu ²; Mylarappa, M ³; Prashantha, S. C ¹; Siddeshwara, D. M. K ⁴;

Source: Advanced Science Letters, Volume 24, Number 8, August 2018, pp. 5801-5804(4)

Publisher: American Scientific Publishers

DOI: <https://doi.org/10.1166/asl.2018.12199>



...
Abstract

References

Citations

Supplementary Data

Suggestions

The objective of this work is mainly focused on green synthesis and characterization of MgO nanoparticles by low temperature solution combustion method. The *Murraya koenigii* (Curry leaves) was used as a reducing agent (as fuel). The average size and crystallinity of nano MgO particles are analyzed by X-ray Diffraction method (PXRD) and accurate morphology was studied using Transmission Electron Microscopy (TEM) and Scanning Electron Microscopy (SEM). From XRD, shows that average particle size of MgO is 40 nm. The synthesized MgO particles used as an efficient catalyst shows rapid color removal and reduction in the concentration of dyes.

Keywords: Malachite Green; MgO Nano Particles; *Murraya Koenigii*; Photocatalytic

Document Type: Research Article

Affiliations: 1: Research Centre, Department of Chemistry, EWIT, Bengaluru 560091, India 2: Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru 78, India 3: Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru 560083, India 4: Research and Development Centre, Bharathiar University, Coimbatore 641046, India

Publication date: August 1, 2018

[More about this publication?](#)

We recommend



Solution Combustion Synthesis of Porous MgO Nanostructures for Efficient Removal of Congo Red

Prediction of nanoparticle transport and deposition in bends


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Electrochemical Enhancement of Nickel oxide Dispersed Graphene Sheets as Electrode Material for Energy Storage Application

D.M.K Siddeswara^{a,1}, K.R.Vishnu Mahesh^b,  , M. Mylarappa^c, H.P. Nagaswarupa^d, K.N Shravana Kumara^d, N. Raghavendra^e, S.C. Prashanth^d

^a Department of Chemistry, Jyothi Institute of technology, Bengaluru 560082, Karnataka, India

^b National Assessment and Accreditation Council, Bangalore 560072, Karnataka, India

^c Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road, Bengaluru 560083, Karnataka, India

^d Research Centre, Department of Science, East West Institute of Technology, Bengaluru 560091, Karnataka, India

^e CMRTU, RV College of Engineering, Bengaluru 560059, Karnataka, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less ^

☰ Outline | ☰ Share ☰ Cite

<https://doi.org/10.1016/j.matpr.2018.06.628>

Get rights and content >

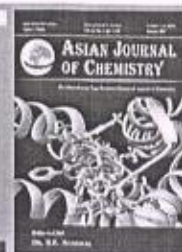
Abstract

In present work, graphene was doped with nickel oxide to improve the performance of electrochemical applications. Initially reduced graphene oxide (rGO) was synthesised by modified Hummer's method by using Graphite as a precursor material, as synthesised rGO is used to prepare rGO/NiO nanocomposite in one step. Then the synthesised GO and rGO/NiO materials are subjected to different characterisation for rectification of the compounds. The synthesised GO and rGO/NiO composites were characterised by using X-ray Diffractometer (XRD) and Surface morphology examined by using Scanning Electron Microscopy (SEM) and Fourier transform infrared spectroscopy (FTIR) for functional group attachments. Graphite, rGO and rGO/NiO nanocomposites were investigated through cyclic voltammetry and electrochemical impedance spectroscopy. From, it is clear that the charge transfer resistance is low in the electrode with rGO/NiO followed by a rise in the capacitance of the electrode. From the obtained results it is confirmed that the electrochemical behaviour of rGO/NiO composites materials was superior as compared to graphite and rGO.

< Previous

Next >

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Cyclic Voltammetry and Electrochemical Impedance Spectral Properties of MnO_2 Obtained by Waste Discarded Batteries Using Eco-Friendly Leaching Materials

M. MYLARAPPA^{1,2}, V. VENKATA LAKSHMI^{1*}, K.R. VISHNU MAHESH^{3*}, H.P. NAGASWARUPA⁴ and N. RAGHAVENDRA⁵

¹Department of Chemistry, AMC Engineering College, Bannerghatta Road, Bengaluru-560 083, India

²Department of Studies and Research in Chemistry, Tumkur University, Tumkur-572 103, India

³Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru-560 078, India

⁴Department of Chemistry, East West Institute of Technology, Bengaluru-560 091, India

⁵Centre for Manufacturing Research & Technology Utilization, RV College Campus, Bengaluru-560 059, India

*Corresponding author: E-mail: laxmimurthy@rediffmail.com; vishnumaheshkr@gmail.com

Received: 1 May 2017;

Accepted: 21 June 2017;

Published online: 15 July 2017;

AJC-18486

This paper reports the recovery of zinc and manganese using hydrometallurgical method from spent dry cell batteries. For the recovery of zinc and manganese present within the spent dry cells are meted out by two acidic subtractive leachants specifically oxalic acid and hydrogen peroxide. The chemical analysis of metals from dry cell batteries were performed by using atomic absorption spectroscopy (AAS). The fundamental composition of recovered metals from dry cell batteries were confirmed by energy dispersive X-ray analysis (EDAX). The section composition of the recovered metals from dry cell batteries were confirmed from X-ray diffractometer. Surface morphology of the recovered metals were examined using scanning electron microscopy (SEM). The functional group analysis were done by Fourier transform infrared (FTIR) analysis. Oxalic acid and hydrogen peroxide were showing active leachants on the recovery of zinc and manganese. Leaching yields of both zinc and manganese higher at leach temperature of 90 °C and NaOH was used as precipitating agent for the recovery of Mn as MnO_2 . The cyclic voltammetry (CV) shows the more reversibility of the electrode and electrochemical impedance spectroscopy (EIS) reveal charge transfer resistance (R_{ct}) and capacitance of electrode. The electrode using 0.5 M NaOH has lowest R_{ct} and more capacitance among all the electrolytes, indicating better conductivity and confirmed that the charge transfer resistance and capacitive behaviour is faster.

Keywords: Waste dry cell, Leachants, Electrochemical, MnO_2 , Zinc, Manganese, Cyclic voltammetry.

INTRODUCTION

Spent alkaline batteries signifies a severe pollutant in terms of heavy metals content when discarded improperly [1,2]. Zinc and manganese cell batteries represents a major amount of spent batteries wastes. The discarded spent alkaline batteries shows severe environmental problem because they contains comparatively high concentration of hazardous metals in their electrodes. The consequences are a greater need of landfills for disposal of the wastes and a more intensive exploitation of mineral resources. Moreover, the local authorities are unable to give the authorization for the opening up of new landfills due to the costs to maintain landfills. During the last decades, to match the environmental requirements the battery producers were involved in the research to find out the substitute for toxic substances still used in the batteries.

Different types of batteries, such as Zn-air battery, zinc-manganese dioxide battery ($Zn-MnO_2$) and zinc-carbon ($Zn-C$) are a source of valuable metals like Zn and Mn. Their recovery

represents an economic benefit for the battery producers and bring to smaller volume to dispose, thus it lengthening the life of landfills [3]. The recovered metals from spent alkaline batteries are used for different electronic applications such as remote communications, torches, military radio receivers, electronic gadgets, some medical devices and electronic toys, etc. These batteries are composed of a cathode, anode, electrolyte and a separator [4,5].

From literature review, numerous reduction approaches in acid media has been investigated such as lactose reduction leaching [6], sucrose reduction leaching [7], corn cob reduction leaching [8], oxalic acid reduction leaching [2], hydrogen peroxide reduction leaching [9], ascorbic/oxalic acid reduction leaching [10,11] and activated carbon powder reduction leaching [12]. Many patented processes have already been developed mainly for treatment of dry cell batteries for a mixture of batteries [13], for lead-acid [14] and a hydrometallurgical process for the recycling of all cell components using sulfuric acid leaching with waste carbohydrates as reducing

PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

VOL 6 | SPECIAL ISSUE 2 | FEB 2019

Shanlax International Journal of Arts, Science and Humanities

A Peer-Reviewed, Refereed Scholarly Quarterly Journal
Globally Indexed with Impact Factor

ISSN 2321-788X



SIJASH NAAS Rated Journal
NAAS Score 2.13

Special Issue Editor

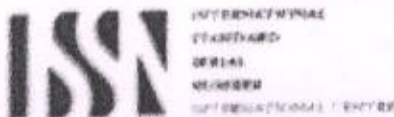
Dr. Reshma Chengappa

Assistant Professor, PG Department of Economics

Maharani's Arts College for Women

Mysore

Volume 3



OJS



SHANLAX
INTERNATIONAL JOURNALS

editors@shanlaxjournals.in | www.shanlaxjournals.in

of Science, Arts & Commerce
Bengaluru-560 009.



SHANLAX

INTERNATIONAL JOURNAL OF
ARTS, SCIENCE AND HUMANITIES
editorial@shanlaxjournals.in www.shanlaxjournals.in

Vol. 6

Special Issue 2

February, 2019

Impact Factor: 3.025

ISSN: 2321-788X

NAAS Score: 2.13

Volume 3

Special Issue Editor

Dr. Rehma Chengappa


Assistant Professor, PG Department of Economics

Maharani's Arts College for Women, Mysore

PRINCIPAL

**Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.**

26	A Sociological Study of Domestic Servants in Mysore Dr. P.M. Nagendra Kumar	148
27	An Overview Study of Indian Economic Reforms Chandrashekar	155
28	English as a Global Language K.B. Raghavendra	162
29	A Study on Role of Foreign Direct Investment Dr. J.R. Venkateshaiah	167
30	Services: A Study With Reference To Bengaluru K.R. Girisha	176
31	BPO in India -- Competitive Advantages and Challenges T.N. Narsimhamurthy	184
32	Reforms in Indian Economic Sectors - A Brief Out Look Dr. B.S. Shivakumaraswamy	190
33	Sustainable Development: The Role of Government and Private Sector Dr. Y.H. Kanthamani	199
34	Health and Nutrition A Human Approach - A Study Dr. G.H. Nagaraja	207
35	Rural Employment Guarantee Programme- A Study Dr. S. Pushpalatha	210
36	The Role of Women in Agriculture Sector in India M.P. Shashikala	216
37	The Role of National Employment Guarantee Scheme in Rural Development Dr. M.D. Umesha	220
38	An Empirical Study on Impact of Technology Innovation on Human Resource Management H. Ananda	225
39	Myth and Voters of American Democracy Dr. T.S. Santhosh Kumar	234
40	Role of Sports, Fitness and Physical Education in Youngsters Life: A Professional Outlook R. Shivaprasad	240


PRINCIPAL
 Sri Jagadguru Renukacharya College
 of Science, Arts & Commerce
 Bengaluru-560 009.

AN EMPIRICAL STUDY ON IMPACT OF TECHNOLOGY INNOVATION ON HUMAN RESOURCE MANAGEMENT

H. Ananda

Assistant Professor and Head, Department of Social Work
S.J.P. College of Science, Arts & Commerce, Bengaluru
<https://doi.org/10.5281/zenodo.2563030>



Abstract

The world of technology and mobile computing has made the concept of "traditional workspace" a thing of past. Today, employees can work from anywhere at any time. Technology has completely redefined the role of human resources all over the world. Recent advances in technology have transformed nearly every aspect of HR, right from sourcing to performance management. Some industry experts opined that technology is one factor that is impacting the HR department to a great extent. Information technology plays a vital fragment of today's scenario while human resource management has also being affected in different methods through its implementation and application. The impact of technology innovation on HRM discovered that increasing the efficiency of HR management activities through an effective employee communication and involvement while the roles and of HR managers has grown extensively due to their adoption and incessant advancement of knowledge in the use of IT.

This study aims is to identify the impact of technology innovation on human resource management. Primary data used for collection data with structured interview schedule in this study. This study contributes to the existing literature by elaborating the role of innovative practices and technology in the context of competitive digital environment. Further, general implications were discussed for the purpose of promoting sustainable development of digital era. Study limitations and future research directions are also discussed.

Keywords: Human Resource (HR), Human Resource Management (HRM), Information Technology (IT).

Introduction

"The HR professionals should remember that employees are the lifeblood of any company. If we create a great workplace experience for them, they'll pay you back one hundred fold in feedback and productivity", Craig Bryant.

Human Resources are the most significant and vital for the success of any organization. The roles and skills of HR managers have grown considerably in recent times due to the adoption and use of new technologies. The managers are now able to perform the traditional functions of procurement, maintenance, development and utilization more effectively and efficiently.

According to Valverde (2006), HR function is "all managerial action carried out at any level regarding the organization of work and the entry, development and exit of people in the organization so that their competencies are used at their best in order to achieve corporate objectives". It includes the actors as well as their relevant responsibilities and tasks. HR managers are facing many challenges in present business scenario like Globalization workforce diversity, technological advances and changes in political and legal environment change in information technology. All these challenges increase the pressure on HR managers to attract, retain and nurture talented employee.

Special Issue

16-17 February 2018

Journal Recognized by the UGC – Registration Number: 64317

Journal of **Media** and **Social Development**


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

JOURNAL OF MEDIA AND SOCIAL DEVELOPMENT

Special Edition on

ISSUES OF SOCIAL DEVELOPMENT - A SOCIAL WORK RESPONSE

February, 2018

Title of the Article	Paper Authors
Psycho Social Problems among Adolescent Students and Need for School Counselling Services	AKSHATHA & MOHAN A K
Impact on Academic Factors of Attention Deficit Hyperactivity Disorder Symptoms among School Children, Teachers, and Parents in Dharwad	CHITKALA VENKAREDDY & SANGEETHA R. MANE
Emotional Intelligence of Youth belonging to Nuclear and Joint Families	ESHITHA ROY
Agrarian crisis and increasing farmer Suicides in Wayanad District of Kerala	JOBY CLEMENT & Y.S.SIDDE GOWDA
A Study on Work Life Balance of Female Nurses	MANJUNATH SANGANNA MOKASHI & PAUL .G AQUINAS
Factors affecting on Health Seeking Behavior and Utilization of Health Care Services among Married Rural Dalit Women	NISARGAPRIYA T S & LOKESHA M U
An Intervention with the Voices of Voiceless Of Maoist Affected Areas of West Bengal	PANDAB HANSDA G. & GLADSTON XAVIER
Role of Ulbs in Social Development	A.V. SHRUTHIRAJ & B. K. TULASIMALA
A Study on the Social Development of Soliga Tribe of Chamarajanagara District, Karnataka State	JYOTHI. H.P
A Study on Life Skill Intervention among the Upper Primary Students in Suntunoor Village, Kalburgi	VEENA B & CHANNAVEER R M
Social Work Practice towards Corporate Social Responsibility (CSR): A Boon for Community Development	ANANDA H
Inclusive Workplace for Differently-Abled: The Perception of HR Professionals	PALLAVI. A & VIDYA VINUTHA D'SOUZA
Trafficking and Human Rights: A Social Work response	SUJATHA M & KUMUDINI ACHCHI

JMSD. Special Issue 2018 / 6


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

University  of Mysore

**JOURNAL OF MEDIA
AND
SOCIAL DEVELOPMENT**

Special Issue

16-17 February 2018

Special Issue Editor

Prof. Y.S.Siddegowda

Conference Director

Department of Studies in Social Work

Coordinator, UGC-UPE-FA-II

University of Mysore, Managangotri, Mysuru

Associate Editors

Prof. N. Usharani

Professor and Chairman,

Department of Studies in

Journalism and Mass Communication,

Co-ordinator, UGC-UPE-FA-II,

University of Mysore, Mysuru -570006

Dr. Muzaffar H Assadi

Professor and Chairman,

Department of Studies in

Political Science,

Co-ordinator, UGC-UPE-FA-II,

University of Mysore, Mysuru -570006

Technical Committee Members

Prof. TBBSV.Ramanaiah

UGC-Emeritus Fellow

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Dr. Jyothi. H.P

Assistant Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Dr.R.Shivappa

Chairman and Associate Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Mr. Ramesh Jayaramaiah

Assistant Professor,

Department of Studies in English,

University of Mysore, Mysuru-570006

Mr.Chandramouli

Assistant Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

JMSD, Special Issue 2018 3

PRINCIPAL

Sri Jagadguru Renukacharya College

of Science, Arts & Commerce

Bengaluru-560 009.



University of Mysore
Department of Studies in Social Work
Manasagangotri, Mysuru.

and
UGC-UPE-FA-II, Vijnana Bhavana


Two-Day National Conference on

“Issues of Social Development- A Social Work Response”


16th and 17th February, 2018

Certificate

This is to certify that Shri./Smt./Prof./ Dr..... H. ANANDA
has presented a paper entitled Social Work Practice towards Corporate
Social Responsibility...: A Boon for Community Development..... in
the Two-Day National Conference on “Issues of Social Development-A Social
Work Response” organized by the Department of Studies in Social Work,
University of Mysore, Mysuru, in collaboration with UGC-UPE-FA-II, Vijnana
Bhavana, Manasagangotri, Mysuru on 16th and 17th February 2018.


Dr. R. Shivappa
Chairman
DOS in Social Work,
University of Mysore,
Mysuru


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.


Prof. Y.S. Siddegowda
Conference Director
DOS in Social Work,
Co-ordinator, UGC-UPE-FA-II
University of Mysore, Mysuru

**Social Work Practice towards Corporate Social Responsibility (CSR): A Boon for
Community Development (A Study with Special Reference to Powerica India Private
Limited, Nelamangala, Bangalore Rural District)**

**ANANDA H, Assistant Professor,
Department of Social Work, S.J.R. College of Science, Arts & Commerce, Bengaluru-560009
Contact no. 9738888074, 9482085909, Email- ananda.msw2008@gmail.com**

ABSTRACT

Social work is a vibrant profession longitude and latitude of the profession are largely widened direct roles of social work begin with primary methods of social work and secondary methods of social work. Every individual in a community aspire to live a health, tolerant, safe, inclusive and fair life. Social work practice has an assured contribution to make in achieving that goal. Social work is a profession that stands for social justice and protection of human rights for individuals, communities & societies as such it has an invaluable knowledge and skill set that can implement the community.

Corporate social responsibility refers to Strategies Corporation or firms conduct their business in a way that is ethical, friendly and beneficial to community in terms of development. Formulation and translating corporate social responsibility (CSR) strategy into actual managerial practice and outcome voluble remain ongoing challenges for many organizations. Social work can potentially play different roles with multidimensional approach towards community development.

This paper focus on social work practice in delivering CSR activities in effective manner at Powerica India Private Limited. Social work transfer corporate social responsible activity into community development aspects by adopting various social work interventions such as health, education, women and child welfare, employee engagement, awareness, provision of water and sanitation etc., Also give Suitable suggestions and recommendations for the problems and will be focused for effective implementation of CSR activity with social work touch for the integrated development of community.

Key words: Social Work Practice, Corporate Social Responsibility, Community Development


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



ESTD : 1945

SJR

Sri Jagadguru Renukacharya Education Society ®

ಎಸ್. ಜಿ. ಆರ್. ವಿಜ್ಞಾನ, ಕಲಾ ಮತ್ತು ವಾಣಿಜ್ಯ ಮಹಾವಿದ್ಯಾಲಯ
College of Science, Arts & Commerce

Affiliated to Bengaluru City University & NAAC Accredited Institution

9, Race Course Road, Ananda Rao Circle, Bengaluru-560 009.

Phone: 080-22264952 E-mail: principal@sjrc.edu.in Website: www.sjrc.edu.in

Certificate of Confirmation

Name of the Author: Mr.Basavaraju.M.N

Paper Title: Increasing Trend of Artificial Intelligence in Colleges.

ISSN No:2230-7540

Research Centre: LIUTEBM University, Lusaka,Zambia.

I certify that the author Mr.Basavaraju.M.N worked in Sri Jagadguru Renukacharya College of science, Arts and Commerce during that period.

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009

Increasing Trend of Artificial Intelligence in Colleges

Basavaraju M. N.^{1*} Dr. K. S. S. Rakesh²

¹ Research Scholar LIUTEBM University, Lusaka, Zambia

² Director (Outreach), LIUTEBM University, Lusaka, Zambia

Abstract – The rapid advancement of technology, such as artificial intelligence (AI) and robotics, has impacted all industries, including education. A recent report from IBM, Burning Glass and Business Higher Education Forum shows that the number of job opportunities for data and analytics skills will increase by 364,000 to 2,720,000 in 2020. That means that the gap between supply and demand of people with AI skills is growing, with one report showing a worldwide base of 300,000 AI professionals, but with millions of opportunities available and this gap is resulting in even higher salaries for those in this field.

Keywords: Artificial Intelligence, Education

INTRODUCTION

Artificial intelligence (AI) is already providing teachers and schools with innovative ways to understand how their students are progressing, as well as allowing for a fast, personalised, targeted curation of content.

- **Personalised Learning:** Managing a class of 30 students makes personalised learning nearly impossible. However, AI can provide a level of differentiation that customises learning specifically to an individual student's weaknesses and strengths.
- **Teacher's Aide:** Teachers don't only teach, they also spend hours grading papers, and preparing upcoming lessons. However, certain tasks, such as marking papers, could be done by robots, giving teachers a lighter workload and more flexibility to focus on other things.¹³ Machines can already grade multiple-choice tests, and are close to being able to assess hand-written answers. There is also potential for AI to improve enrolment and admissions processes.
- **Teaching the Teacher:** Artificial intelligence makes comprehensive information available to teachers any time of day. They can use this information to continue educating themselves in things such as learning foreign languages or mastering complex programming techniques.

• **Connecting Everyone:** Because AI is computer-based, it can be connected to different classrooms all over the world, fostering greater cooperation, communication, and collaboration among schools and nations.

EXAMPLES OF ARTIFICIAL INTELLIGENCE IN EDUCATION

Artificial intelligence is being applied successfully in several educational instances, and improves learning and student development, as well as the educators' performance.

1. **Emotional Well-Being:** A child's emotional state affects how well or poorly they are able to focus, engage and stay motivated to learn. With this in mind, a team from the Department of Artificial Intelligence in Madrid, Spain, led by Dr. Imbernon Cuadrado are working on a robot called ARTIE (Affective Robot Tutor Integrated Environment). ARTIE's chief role is to identify the emotional state of a student through keyboard strokes and mouse action, and then, by running an algorithm that chooses the most appropriate intervention required, give the student personalised educational support. These range from encouraging words, to gestures, or attempts to increase the students' interest and motivation towards a certain learning goal. ARTIE's design team have focused on three cognitive states:

Special Issue

16-17 February 2018

Journal Recognized by the UGC – Registration Number: 64317

Journal of **M**edia and **S**ocial **D**evelopment


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

Since : 2013

ISSN 2320 - 8244 (Print version)

Special Issue
16-17 February 2018
www.msjournal.com

Special Issue Editor
Prof. Y.S. Siddegowda

PUBLISHER

Journal of Media and Social Development is a quarterly research journal both in Print and Online editions published by Prof.N.Usha rani, Professor & Chairman, Department of Studies in Journalism and Mass Communication, Manasgangotri, University of Mysore & Coordinator, UPE - University with Potential for Excellence - Focus Area-II Project of the University of Mysore, Mysuru -570 006, Karnataka State, INDIA.

Printed by

Sri RAJENDRA PRINTERS and PUBLISHERS

Mysore - 570 001, for the UGC UPE FA-II Project,
University of Mysore, Mysuru, India.

CONTACT

Coordinator
UGC UPE Focus Area-II
Vijnana Bhavan, Manasgangotri
University of Mysore
Mysuru- 570 006
India
mail : journal.msjournal@gmail.com

Websites :

www.msjournal.com
www.mysore.uni.ac.in
www.ugcupefa2.co


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

**JOURNAL OF MEDIA
AND
SOCIAL DEVELOPMENT**

Special Issue

16-17 February 2018

Special Issue Editor

Prof. Y.S.Siddegowda

Conference Director

Department of Studies in Social Work

Coordinator, UGC-UPE-FA-II

University of Mysore, Managangotri, Mysuru

Associate Editors

Prof. N. Usharani

Professor and Chairman,

Department of Studies in

Journalism and Mass Communication,

Co-ordinator, UGC-UPE-FA-II,

University of Mysore, Mysuru -570006

Dr. Muzaffar H Assadi

Professor and Chairman,

Department of Studies in

Political Science,

Co-ordinator, UGC-UPE-FA-II,

University of Mysore, Mysuru -570006

Technical Committee Members

Prof. TBBSV.Ramanaiah

UGC-Emeritus Fellow

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Dr. Jyothi. H.P

Assistant Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Dr.R.Shivappa

Chairman and Associate Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

Mr. Ramesh Jayaramaiah

Assistant Professor,

Department of Studies in English,

University of Mysore, Mysuru-570006

Mr.Chandramouli

Assistant Professor,

Department of Studies in Social Work,

University of Mysore, Mysuru-570006.

JMSD, Special Issue2018/3


PRINCIPAL

**Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.**

Human Rights of Women in India	REKHA H
Influence of Labour Welfare Measures and Social Security Benefits on Socio-Economic conditions of the employees: A Comparative Study of selected Public and Private Sector Industrial Units in Bangalore, Karnataka	VENKATESHA MURTHY S
Social Development in Children	SHARMISTA
Prevalence of Suicide and the Need for Social Work Intervention	SUSMITHA B & R. SHIVAPPA
Women Health Care Service A Review	M.D. UMESHA
Employee Voice on Human Resource Management	SARVESH MISHRA
Is Extradition Treaty Gives Social Justice For Injured State? An Critical Analysis	S.B.BOREGOWDA & RAMESH
Social Justice And Human Rights -Shadow Or Rival.	FATHIMA IBRAHIM & ANIS FAHIMA J
Social Work Education and Social Development: Reflecting of Field Work Training	NAVEENKUMAR G TIPPA & SANGEETHA RMANE
Women Empowerment Through Gender Equality	G.R.RANGASWAMY
Human Rights and Development – A Social Work Perspective	GAGAN K & USHA D N
Challenges to Health Right among Rural People: A Study in Udupi District	GANESH PRASAD G NAYAK & DUGGAPPA KAJEKAR
A Study on the Impact of MGNREGS in Reducing the Health Vulnerability among Backward Class Women in Permude Village Panchayat of Dakshina Kannada District	GANGADHARA Y V & PARASHURAMA K G
Performance of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on Scheduled Tribes of Chintapalle Mandal in Andhra Pradesh	GATREDDI RAJU
The Emerging challenges in HRM	GAYATRI M P
Problems of Social Workers Working in Government and Non-Governmental Organizations in Raichur and Vijayapura Districts	GNANASUNDARI & S.A.KAZI
Problem Faced By Single Mothers In India	HARISH K & P.G.AQUINAS

2) DOWRY HARASSMENT AND BRIDE BURNING:

The demand of dowry by the husband and his family and then killing of the bride because of not bringing enough dowry to the in-laws has become a very common crime these days. In spite of the Dowry prohibition Act passed by the government, which has made dowry demands in wedding illegal, the dowry incidents are increasing day by day. According to survey, around 5000 women die each year due to dowry deaths and at least a dozen die each day in 'kitchen fires'.

3) RAPE:

Young girls in India often are the victims of rape. Almost 255 of rapes are of girls under 16 years of age. The law against rape is unchanged from 120 years. In rape cases, it is very torturing that the victim has to prove that she has been raped. The victim finds it difficult to undergo medical examination immediately after the trauma of assault. Besides this, the family too is reluctant to bring in prosecution due to family prestige and hard police procedures.

4) DOMESTIC VIOLENCE:

Wife beating, abuse by alcoholic husbands are the violence done against women which are never publicly acknowledged. The cause is mainly the man demanding the hard earned money of the wife for his drinking. But an Indian woman always tries to conceal it as they are ashamed of talking about it. Interference of in-laws and extra marital affairs of the husbands are the another cause of such violence. The pity women are unwilling to go to court because of lack of alternative support system.

Thus, all these violence done against women raises the question mark that how these special rights being given to women are helping them? What are the benefits of framing such laws for the women? Are they really helping them? Will the women really be given an equal status to men one day? All these questions are still unanswered. There is still long way to go to answer such questions

REFERENCES:

- Crimes in India - 2010, NCRB, Ministry of Home Affairs.
- Jalbert. E. Susanne.,2000. Women Entrepreneurs in the Global Economy. March 17, 2000
- United Nations Department of public Information DPI/1772/HR - February 1996.
- Poonam Dhanda. 2012. Status of Women in India. RBSA publications. Pg - 1-14.
- Madhurima. 2010. Readings in sociology. New Academic publishing co. Pg - 216 -233.

INFLUENCE OF LABOUR WELFARE MEASURES AND SOCIAL SECURITY BENEFITSON SOCIO-ECONOMIC CONDITIONS OF THE EMPLOYEES : A COMPARATIVE STUDY OF SELECTED PUBLIC AND PRIVATE SECTOR INDUSTRIAL UNITS IN BANGALORE, KARNATAKA

Venkatesha Murthy S

Abstract

Labour welfare refers to amenities, services, and facilities provided to the employees by employer that improve their working conditions as well as their standards of living. Social security envisages that the employees shall be protected against all types of social risks that

JMSD, Special Issue 2018 / 500


PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

ISSN : (P) 0048-7325

(e) 2454-7026

ICRJIFR Impact Factor 4.0012

RESEARCH JOURNAL OF PHILOSOPHY & SOCIAL SCIENCES

A Peer Reviewed & Refereed International Journal

Vol. 44

SPECIAL ISSUE



UGC
Approved Journal
No. 47384

POVERTY AND INCOME INEQUALITY IN INDIA: SOCIAL WORK RESPONSES

GUEST EDITORS
PROF. PARASHURAMA K.G
PROF. RAMESH B
DR. LOKESHA M.U

✓
PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

RESEARCH JOURNAL OF PHILOSOPHY & SOCIAL SCIENCES

A Peer Reviewed & Refereed International Journal

Vol. 44

SPECIAL ISSUE

“POVERTY AND INCOME INEQUALITY IN INDIA: SOCIAL WORK RESPONSES

Guest Editors

Prof. Parashurama K.G.

Prof. Ramesh B

Dr. Lokesh M.U

Journal Anu Books

Delhi Meerut Glasgow (U.K.)


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

42. HUNGER AND POVERTY – ISSUES AND CHALLENGES IN GOAL OF HEALTH FOR ALL
NAVEENKUMAR G TIPPA, DR. SANGEETHA R MANE 218
43. POVERTY AND INEQUALITY IN INDIA: -ISSUES AND CHALLENGES
DR. PADMINI S.V 224
44. QUALITY OF LIFE AMONG ECONOMICALLY POOR WOMEN VICTIMS OF VIOLENCE AT
MYSORE
PREMAJYOTHI.D, DR.SANGEETHA R MANE 229
45. MULTIDIMENSIONAL POVERTY IN INDIA – AN ANALYSIS
RAMESHA K, DR. T. RAJENDRA PRASAD 234
46. NREGA AS A MEANS OF ERADICATION OF RURAL POVERTY IN INDIA
RAMESHA K, SMT. HARSHA S M 239
47. TRENDS IN INCOME INEQUALITY WITH SPECIAL REFERENCE TO CONTRACT LABOUR
SATISH B, PROF. RAVINDRA GADKAR 246
48. AWARENESS OF THE TRANSGENDERS ABOUT THEIR RIGHTS WITH SPECIAL REFERNCE
TO THE TRANSGENDER PROTECTION BILL, 2016
SHIBIN S. JOSEPH, DR. R. BELINDA 249
49. URBAN POVERTY ALLEVIATION WITH SPECIAL REFERENCE TO CHENNAI, TAMILNADU
L.S.SUGAPRIYANKA, DR. M.SUDHA, GEORGY JOHN MATHEW 253
50. UNDERSTANDING SEXUAL MINORITIES: POVERTY AND INCOME INEQUALITY
SUNIL MANAKAWAD, DR. SANGEETHA R. MANE 256
51. ECONOMIC STATUS OF 'BANJARA' COMMUNITY AND ITS IMPACT- WITH SPECIAL
REFERENCE TO 'KARALAKATTITANDA' OF SAVADATTITALUKAIN BELAGAVI DISTRICT
SUNILA KUMAR S JAMANAL 262
52. POVERTY AND HEALTH – IT'S CORRELATED
UMA MAHESHWARIA.E, DEVARAJU R 267
53. SOCIAL WORK INITIATIVES IN THE DIRECTION OF EMPOWERMENT OF
MARGINALISED GROUPS IN REDUCING POVERTY AND MAINTAINING
ECONOMIC EQUALITY
DR.VENKATESHA MURTHY.S 272
54. A STUDY ON INTERVENTIONS OF NGO'S IN POVERTY ALLEVIATION WITH SPECIAL
REFERENCE TO SCODWES, SIRSI, UTTAR KANNADA DISTRICT, KARNATAKA
VIDYAVAHINI WAGH 278
55. INCIDENCE OF POVERTY IN HYDERABAD-KARNATAKA (HK) REGION
DR. NIRANJAN.R, SHIVAKUMAR 282

SOCIAL WORK INITIATIVES IN THE DIRECTION OF EMPOWERMENT OF MARGINALISED GROUPS IN REDUCING POVERTY AND MAINTAINING ECONOMIC EQUALITY

DR.VENKATESHA MURTHY.S

Associate Professor & Head, Department of Social Work,
SJR College of Science, Arts & Commerce, Bengaluru

Introduction

Indian society has been marked by social, political and economic inequalities since millennia and vast section of people have been subjugated on the basis of class, caste, religion, gender, lineage, disability and sexual preference. Marginalization can be determined by considering the condition of marginalized persons and their style life. Most important life problems in marginalized areas are consisting; unemployment. As a result, they continue to suffer due to poverty, hunger, ill health, social and cultural alienation. The laws such as Right to Information need to become a tool for the marginalised groups to enquire certain aspects of their marginalisation, exclusion and discrimination. Social Work profession promotes social change, problem solving in human relationships and empower Individuals to achieve well-being of the community have expressed. Social work is benefiting from theories of human behaviour and social systems and through interfering with one another to create a balance between individual and their environment. The skills of social workers may be employed to alleviate adverse social conditions through their operational public, private, civil society organizations, and non-governmental organizations. Through them social workers provide a wide variety of social services to meet social needs or mitigate social problems.

What is Social Marginalization?

Marginalization is a slippery and multi-layered concept. Whole societies can be marginalized at the global level while classes and communities can be marginalized from the dominant social order. Similarly, ethnic groups, families or individuals can be marginalized within localities. To a certain extent, marginalization is a shifting phenomenon, linked to social status. So, for example, individuals or groups might enjoy high social status at one point in time, but as social change takes place, so they lose this status and become marginalized. Similarly, as life cycle stages change, so might people's marginalized position.

Poverty and Economic Marginality in Brief

People who are experiencing marginalization are likely to have tenuous involvement in the economy. The sources of their income will vary. Some will be waged and some will depend on state benefits, marginal economic activity such as casual work, or charity. It is not unusual for people to combine or move between, these various ways of getting money in their struggle for survival. Poverty, dependency, and feelings of shame are everyday aspects of economic dislocation and social marginalization. These experiences affect men and women differently and vary with age. Poverty and economic marginalization have both direct and indirect impacts on socio-economic conditions of the people.

Financial Inclusion of the Marginalised for Economic Equality: Some Glimpses of Union Budget 2017-18

Budget is one of the important tools of financial planning and it reflects the political economy of the country and priorities of the Government. The Finance Minister of India has presented the Union Budget of Rs.21.47 lakh crore for the financial year 2016-17 in the Lok Sabha recently. There has been mixed response to the Budget from different quarters but the allocation for social sector, rural areas,


PRINCIPAL

Sri Jagadguru Renukacharya College
of Science, Arts & Commerce

Bengaluru-560

PAPER

Synthesis and characterization of Mn–ZnFe₂O₄ and Mn–ZnFe₂O₄/rGO nanocomposites from waste batteries for photocatalytic, electrochemical and thermal studies

M Mylarappa^{1,2}, V Venkata Lakshmi¹, K R Vishnu Mahesh³ , H P Nagaswarupa⁴ and N Raghavendra⁵

Published 16 November 2017 • © 2017 IOP Publishing Ltd

Materials Research Express, Volume 4, Number 11

Citation M Mylarappa *et al* 2017 *Mater. Res. Express* 4 115603

DOI 10.1088/2053-1591/aa912f

laxmimurthy@rediffmail.com

vishnumaheshkr@gmail.com


¹ Department of Chemistry, Research Centre, AMC Engineering College (Affiliated to Tumkur University), Bannerghatta Road, Bengaluru-560083, Karnataka, India

² Department of Studies and Research in Chemistry, B.H Road, Tumkur University, Tumkur-572103, Karnataka, India

³ National Assessment and Accreditation Council (An Autonomous Institution of the University Grants Commission), Bengaluru-560072, Karnataka, India

⁴ Department of Chemistry, East West Institute of Technology, Bengaluru-560091, Karnataka, India


⁵ CMRTU, RV College of Campus, Bengaluru-560059, Karnataka, India

K R Vishnu Mahesh  <https://orcid.org/0000-0003-2809-577X>

1. Received 12 July 2017

2. Accepted 5 October 2017

3. Published 16 November 2017

 Check for updates

Method: Double-anonymous

Revisions: 2

Screened for originality? Yes

This site uses cookies. By continuing to use this site you agree to our [privacy policy](#) and [cookies policy](#). Buy this article in print [Bengaluru-560009](#) for more.


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560009





Materials Today: Proceedings

Volume 4, Issue 11, Part 3, 2017, Pages 12215-12222

Resource Recovery and Material Characterization of Metals from Waste Li-ion Batteries by an Eco-Friendly Leaching Agent

M. Mylarappa^a, V. Venkata Lakshmi^a, K.R. Vishnu Mahesh^c, H.P. Nagaswarupa^d, S.C. Prashantha^d, K.N. Shrayana Kumara^e, D.M.K. Siddeswara^c, N. Raghavendra^f

^a Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road, Bengaluru-560083, Karnataka, India

^b Department of Studies and Research in Chemistry, B.H Road, Tumkur University, Tumkur, Karnataka, India

^c Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru-78, India

^d Research Centre, Department of Chemistry, EWIT, Bengaluru-91, India

^e Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, India

^f CMRTU, RV College of Campus, Bengaluru-560059, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less ^

Outline | Share | Cite

<https://doi.org/10.1016/j.matpr.2017.09.152>

Get rights and content ^

Abstract

In the present work, a hydrometallurgical process based on leaching is applied to recover lithium and cobalt from waste lithium ion batteries (LIBs) using a hydrogen peroxide as leaching agent. This process is found to be simple, eco-friendly and adequate for the recovery of valuable metals from spent LIBs. Effects of reaction variables on leaching in hydrochloric acid of LiCoO_2 contained in cathodic electrode of waste lithium ion batteries were investigated. The dissolution of LiCoO_2 was found to increase with an increase in temperature, concentration of HCl, time and solid/liquid (S/L) ratio. The elemental composition and phase composition of recovered metals were confirmed by Energy Dispersive X-ray analysis (EDAX) and X-ray Diffractometer (XRD). Surface morphology of the recovered metals were examined using scanning electron microscopy (SEM) and also the functional group analyses were done by Fourier transform infrared (FTIR) spectrometry.



PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Materials Today: Proceedings

Volume 4, Issue 11, Part 3, 2017, Pages 11799-11805

One Step Synthesis of Ternary Composite of GNS/CNT/MnO₂ for the Applications of Electrochemical and Photocatalytic Studies

D.M.K. Siddeswara^a, T. Venkatesh^b, K.R. Vishnu Mahesh^c  , M. Mylarappa^d, K.S. Anantharaju^e,
K.N. Shrayana Kumara^e, N. Raghavendra^f, M.S. Shivakumar^b

- ^a Department of Chemistry, Jyothi Institute of technology, Bengaluru 560082, India; Research and Development Centre, Bharathiar University, Coimbatore 641046, India
- ^b Research Centre, ACS College of Engineering, Bengaluru 79, India
- ^c Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru 78, India
- ^d Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru 560083, India
- ^e Research Centre, Department of Chemistry, EWIT, Bengaluru 560091, India
- ^f CMRTU, RV College Campus, Bengaluru 59, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less ^

☰ Outline | 🔗 Share 🗨 Cite

<https://doi.org/10.1016/j.matpr.2017.09.097>

[Get rights and content](#)

Abstract

The current research was mainly focused on synthesizing the graphene nano sheets (GNS) and GNS/CNT/MnO₂ composite. The GNS/CNT/MnO₂ composite were characterized using X-ray Diffractometer (XRD). Elemental composition and Surface morphology were examined using Energy Dispersive X-Ray (EDX) analysis and Scanning Electron Microscopy (SEM). Electrochemical activity of the GNS/CNT/MnO₂ composites was investigated through cyclic voltammetry and electrochemical impedance spectroscopy. The composite was capable of delivering a high specific capacitance with excellent cycling stability. The GNS/CNT/MnO₂ catalyst was also applied to degrade different nonvolatile compounds such as Methylene blue (MB) and Malachite green (MG). The performance of GNS/CNT/MnO₂ showed rapid degradation of dyes of high concentration.

< Previous


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Next >



Materials Today: Proceedings

Volume 4, Issue 11, Part 3, 2017, Pages 12109-12117

Effect of Nanoclays on the performance of Mechanical, Thermal and Flammability of Vinylester based nanocomposites

N. Raghavendra^a, H.N. Narasimha Murthy^b, K.R. Vishnu Mahesh^c  , M. Mylarappa^d, K.P. Ashik^b,
D.M.K. Siddeswara^e, M. Krishna^b

^a CMRTU, RV College of campus, Bengaluru -560059, Karnataka, India

^b Department of Mechanical Engineering R V College of Engineering, Bengaluru -560059, Karnataka, India

^c Department of Chemistry, Dayanand Sagar College of Engineering, Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru -560078, India

^d Research Centre, Department of Chemistry, AMC Engineering College, Bannerghatta Road Bengaluru-560083, Karnataka, India

^e Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, Karnataka, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less 

 Outline |  Share  Cite


<https://doi.org/10.1016/j.matpr.2017.09.138> >

Get rights and content >

Abstract

This paper presents the effect of Cloisite-15A and OMIB nanoclays in vinylester/glass on their mechanical, thermal and fire retardation behaviour containing percentage amounts of nanoclays in vinylester utilising the blend of ultrasonication and twin screw extrusion. Nanoclays/vinylester/glass specimens have been fabricated by using hand lay-up technique. XRD outcome of Nanoclays/vinylester gel coat confirmed exfoliation of nanoclay as much as 4 wt.% nanoclay loading. Glass transition temperature of Nanoclays/vinylester improved monotonically with increase in nanoclays loading. Best tensile strength, Interlaminar shear strength, Flexural Strength and Impact strength of vinylester/glass increases as much as 4 wt.% loading with the addition of OMIB however lowered when compared to Cloisite-15A. Limiting oxygen index of vinylester/glass specimens reduced monotonically with the addition of Cloisite-15A and OMIB.





 Previous

Next 


PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.



Synthesis and Characterization of M⁺CoV₂O₅ (M⁺ = Li⁺, Na⁺, K⁺) and Their Electrochemical Impedance Spectroscopic Studies

Y.N. Vaidyanath^a, K.G. Ashamanjari^a,  , M. Mylarappa^b, M.S. Bhargava Ramu^a, K.R. Vishnu Mahesh^c  , S.C. Prashanth^d, H.P. Nagaswarupa^d, N. Raghavendra^e

^a Department of Studies in Earth Science, University of Mysore, Manasagangotri, Mysore 570 006, India

^b Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru 560083, India

^c Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru 56078, India

^d Research Centre, Department of Chemistry, EWIT, Bengaluru 560091, India

^e CMRTU, RV College Campus, Bengaluru 560059, Karnataka, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less ^


 Outline |  Share  Cite

<https://doi.org/10.1016/j.matpr.2017.09.162>

Get rights and content

Abstract



The electrical conductivity of M⁺CoV₂O₅ was investigated as a function of the nature of the transition-metal cation. A series of M⁺CoV₂O₅ (M⁺ = Li⁺, Na⁺ and K⁺) materials have been synthesized by soft hydrothermal technique at moderate pressure and temperature conditions. Observation through a Scanning Electron Microscope shows that microstructures of the resultant materials. The resultant powder X-ray diffraction confirms that, the M⁺CoV₂O₅ (M⁺ = Li⁺, Na⁺ and K⁺) material has very good crystal structure. The EDAX spectrum shows the clear identification of metal composition. The FTIR studies revealed that the presence of O-H molecules and minute structural variations of synthesized materials. Impedance measurement revealed that the materials have relatively good ionic conductance.

 Previous

Next 



Facile Synthesis and Characterization of MnO₂/Graphene/Multi Walled Carbon Nanotube Nanostructured Ternary Composite: An Advance Material for Environmental and Biological Applications

T. Venkatesh^a, K.R. Vishnu Mahesh^b  , M. Mylarappa^c, D.M.K. Siddeswara^d, N.Raghavendra^e, M.S. Shiva Kumar^a, Dinesh Rangappa^f, D.S.Prasanna^f

^a Department of Chemistry, ACS College of engineering, Bengaluru-560074, Karnataka, India

^b Department of Chemistry, Dayanand Sagar College of Engineering, Bengaluru -560078, Karnataka, India

^c Research Center, Department of Chemistry, AMC, Engineering College, Bengaluru-560083, Karnataka, India




^d Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, Karnataka, India

^e CMRTU, RV College Campus, Bengaluru -560059, Karnataka, India


^f Department of Nanotechnology & Visvesvaraya Center for NanoScience & Technology, PG Center Bangalore Region, Visvesvaraya Technological University, VIAT, Muddenhalli, Chikkaballapur, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less ^

 Outline |  Share  Cite

<https://doi.org/10.1016/j.matpr.2017.09.112>

Get rights and content 

Abstract

The present research was mainly focused on an efficient approach for the synthesis of MnO₂/Graphene/Multiwalled carbon nano tubes/nanocomposite (MnO₂/Graphene/MWCNTs). The MnO₂/Graphene/MWCNTs nanocomposite was characterized by using X-Ray Diffractometer (XRD), Scanning Electron Microscope (SEM), Fourier Transform Infrared (FTIR) spectra, Ultraviolet-visible (UV-vis) absorption spectra. The morphology of the Nanocomposite (MnO₂/Graphene/MWCNTs) demonstrated that the MnO₂ with a nanometer size were uniformly and compactly deposited on Graphene/MWCNTs. As prepared ternary composite material was employed to degrade the high concentration of nonvolatile dyes.



Cyclic Voltammetry, Impedance and Thermal Properties of CoFe₂O₄ Obtained from Waste Li-Ion Batteries

M. Mylarappa^{a,b}, V. Venkata Lakshmi^a, K.R. Vishnu Mahesh^c, N. Raghavendra^d, H.P. Nagaswarupa^e

^a Research Centre, Department of Chemistry, AMC Engineering College, Tumkur University, Bannerghatta Road, Bengaluru 560083, Karnataka, India

^b Department of Studies and Research in Chemistry, Tumkur University, B.H Road, Tumkur, Karnataka, India

^c National Assessment and Accreditation Council, Bangalore 560072, Karnataka, India

^d CMRTU, RV College Campus, Bengaluru 560059, Karnataka, India

^e Research Centre, Department of Science, East West Institute of Technology, Bengaluru 560091, Karnataka, India

Available online 9 November 2018, Version of Record 9 November 2018.

Show less ^

Outline | Share | Cite

<https://doi.org/10.1016/j.matpr.2018.06.612>

Get rights and content >

Abstract

In the present study, CoFe₂O₄ nanocrystals were synthesized from waste lithium ion battery powder using citric acid as eco- friendly material by hydrothermal method. The prepared materials were characterized by X-ray powder diffraction (XRD) to study particle size and crystallinity, the morphology of the nano composite are analysed by using Scanning Electron Microscopy (SEM), functional group were observed using Fourier Transform Infrared Spectrometer (FTIR). The thermal properties of CoFe₂O₄ nanocrystals were analysed using Thermo Gravimetric Analysis (TGA), Differential Scanning Calometry (DSC) and Differential Thermal Analysis. The synthesized nano particle was studied for the electrochemical studies such as Cyclic Voltammetry (CV), electrochemical impedance spectra, capacitance and electron transfer resistance

< Previous

Next >





Keywords

Waste Li-Ion batteries; CoFe₂O₄; Cyclic Voltammetry; Electrochemical Impedance analysis; Thermal properties

PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.






Synthesis and Characterization of Low Cost MgO Nanoparticle for the Assessment of the corrosion performance on Aluminium 6065

K.N. Shravana Kumara^{a, b}, H.P. Nagaswarupa^a  , K.R. Vishnu Mahesh^c  , **M. Mylarappa^d**, S.C. Prashantha^a,
D.M.K. Siddeswara^e, N. Raghavendra^f, K.S. Anantharaju^c

- ^a Research Centre, Department of Chemistry, East West Institute of Technology, Bengaluru 560091, Karnataka, India
^b Research and Development Centre, Bharathiar University, Coimbatore 641046, Tamil Nadu, India
^c Department of Chemistry, Dayananda Sagar College of Engineering, Bengaluru 560078, Karnataka, India
^d **Research Centre, Department of Chemistry, AMC Engineering College, Bengaluru 560083, Karnataka, India**
^e Department of Chemistry, Jyothi Institute of technology, Bengaluru-560062, India
^f CMRTU, RV College Campus, Bengaluru -560059, Karnataka, India

Available online 11 November 2017, Version of Record 11 November 2017.

Show less 

 Outline |  Share  Cite

<https://doi.org/10.1016/j.matpr.2017.09.139> >

[Get rights and content >](#)

Abstract

The present research was mainly focused on synthesis of MgO nanoparticles by low temperature solution combustion method using urea as fuel for corrosion studies on aluminium 6065. The Surface morphology of the synthesized nanoparticle was examined using Scanning Electron Microscopy (SEM). The accurate size and morphology of synthesized nanoparticle was studied using Transmission Electron Microscopy (TEM). The phase composition of the synthesized nanoparticle was confirmed from powder X-ray Diffractometer (PXRD). The elemental composition of the metal was analyzed by Energy Dispersive X-Ray spectroscopy (EDX) method. Functional groups attachments are confirmed by using Fourier transform infrared spectroscopy (FTIR). Open circuit potential (OCP), Electrochemical Impedance Spectroscopy (EIS) and Taffel were characterized by using Electro chemical workstation for corrosion studies of stir cast reinforced aluminium (6065) composite.




PRINCIPAL
Sri Jagadguru Renukacharya College
of Science, Arts & Commerce
Bengaluru-560 009.

