Abstract Proceedings
of
TWO-DAY INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN CHEMICAL, PHARMACEUTICAL, ENVIRONMENTAL SCIENCE AND TECHNOLOGY
(ICETCPEST-2017)

Date: 24th & 25th January 2017

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About P. R. Govt. College

The Pithapur Rajah's Government College was established in 1884 by Sri Venkata Kumara Mahipathi Surya Rao Bahadur.The College became Autonomous in 2000 and was accorded College with Potential for Excellence status in 2010. It was previously affiliated to Madras University, Channai and Andhra University, Visakhapatnam and is now affiliated to Adikavi Nannaya University, Rajamahendravaram, AP., The College has 35 acres of sprawling campus in the centre of Kakinada town.

ABOUT CHEMISTRY THE DEPARTMENT:

Chemistry Department is one of the oldest of this college. A restructured course with Mathematics, Chemistry and Petrochemicals combination was introduced in 1998-99. Bringing credit to the Department M.Sc., Organic Chemistry was introduced in 2006 and Analytical Chemistry in 2012. Environmental Audit, a Career Oriented Programme (COP) sponsored by UGC was started in 2005. Community College Course of Analytical Techniques in Pharmaceutical Industry in introduced from 2015-16 academic year.

ANVESHANA EDUCATIONAL AND RESEARCH FOUNDATION

No Limits for Imagination.....

Anveshana Educational and Research Foundation (AERF) is devoted to the dissemination of Scientific, Management and Technological information around the world and makes all efforts towards achieving this goal. It seeks to strengthen research and advanced education in these and allied fields. AERF encourages new ideas or new perspectives on existing research. It is a registered non-profit association for Academicians and Researchers in the field of Engineering, Electronic Communication, Modeling& Simulation, Manufacturing Technologies, Marketing, Accounting, Economics, History, Law, Behavioral Science, Information Science and a myriad of other fields. It is an international medium for the publication of articles of interest to researchers in education and has rapidly become a major focal point for the publication of educational research from throughout the world. It also conducts International Conferences, Management Development Programs and other events to enhance knowledge, skills, and the personal development of participants.

Objective

The conference aims to improve and harness the knowledge of academicians, research practitioners, industry members and students in the area of Engineering Applications and Management Concepts. This program brings out the above objective by sharing the knowledge.

Mission

The society is with targeted mission to improve the quality, efficiency and effectiveness of education, research and training systems in India and across the globe. This will in turn be a vantage point for us to encourage and improve Higher Educational Institutions' contribution to society and nation.

Consequently, it will be a stimulating factor to create and foster an Indian area of higher education and it will empower the excellence and improve the visibility of higher educational activities focused on services to society and nation.

Vision

To be one of the best non-governmental organizations across the globe making education significantly research oriented and practical in learning.

ASSOCIATION OF CHEMISTRY TEACHERS

c/o Homi Bhabha Centre for Science Education(TIFR)
V N Purav Marg,Mankhurd,Mumbai 400088,India
Regn.No. Government of Maharashtra,Mumbai 922,2010,GBBSD dated. 08-04-2010
Website:www.associationofchemistryteachers.org

Association of Chemistry Teachers, launched in 2000 is the apex national body of Chemistry educators and brings together on a common platform college, university and school teachers, scientists and researchers from industry for organizing subject related activities. Since its inception, ACT has worked tirelessly to promote excellence in Chemistry education and to motivate students to pursue Chemistry as a lifelong vocation.

The main objectives of ACT are:
1) To advance Chemistry education in the country by means of curriculum development and innovation in teaching and evaluation methodologies.
2) To organize workshops and conferences including an annual National Convention of Chemistry Teachers in different parts of the country.
3) To forge a synergistic relationship between academia, industry and research centers for mutual benefit.
4) To explore and nurture talent in Chemistry with special reference to the Indian National and International Chemistry Olympiads.
5) To collaborate with International Science Teachers' organizations for exchange of ideas and organization of joint programmes.

Activities organized by ACT
The activities are organized through the six zonal councils with headquarters at Mumbai.

1) An annual National Convention of Chemistry Teachers (NCCT) is organized in October/November comprising invited lectures, demonstration of innovative teaching methods and new interesting experiments and presentations by the teacher participants. On an average about 200 teachers and researchers from all over the country participate. The abstracts of the invited lectures and presentations are published in the proceedings of NCCT.

2) Regional level conferences and symposia are regularly organized by the zonal councils.

Some of the conferences organized recently in 2015-2016 are listed below:
a) National Seminar on "Environmental pollutants-Safety measures and Management" at Magadh Mahila College, Patna in December 2015,

b) International Conference on "Futuristic materials and emerging trends in Chemical Sciences" at DBS College, Kanpur in February 2016,
c) National Seminar on "Recent innovations in Green Chemistry" at Telangana University, Nizamabad, Telangana State on February 2016.
d) National Seminar on "Recent trends in Materials Science, Chemistry and Environmental Science" at Dasaratha Deb Memorial College, Lalchera, Khowai, TripuraState.

3) Workshops for PhD scholars and industry chemists on Chromatographic and Spectroscopic techniques at SIES Institute of Chromatography and Spectroscopy Nerul, Navi Mumbai. The participants are given hands on training in the use of sophisticated instruments.

4) Several activities are organized in schools and colleges to popularize Chemistry,
a) National Chemistry Day is celebrated on December 10.
b) National Science Day is celebrated on February 28.
c) Organization of Chemistry Quiz and Essay competitions.

Role of ACT in the Chemistry Olympiad Programme
ACT plays a pivotal role in the organization of the National Standard Examination in Chemistry (NSEC) which is the first stage examination leading to participation in the Indian National and International Chemistry Olympiads. Every year more than 40000 higher secondary school and CBSE students appear for this examination from around 1350centres spread all over the country. The toppers are given merit certificates and book prizes. The large network of 2000 Life Members of ACT is actively involved in the different stages of the Chemistry Olympiad programme. It is a matter of pride and gratification that the performance of the Indian teams over the years has been consistently very good.

In the last five years ACT has taken up some new activities:
a) Concept Test in Chemistry for Undergraduate students which are a multiple choice question test.
b) DST sponsored Chemistry Popularization Workshops in the smaller cities and towns. 12 workshops have been organized at different locations including Tezpur and Srinagar (JK).

International Conference on "Education in Chemistry" ICEC
The first international conference ICEC 2010 was held in November 2010 at HBCSE (TIFR) to commemorate the International Year of Chemistry IYC 2011.The faculty was drawn from prestigious institutions of USA, UK and India. The invited lectures and abstracts of

the presentations were published in the form of a book entitled "Chemical Education"
(Narosa Publishing House, New Delhi, 2012)

The second ICCE was organized in December 2014

Both conferences dealt with the pedagogy of teaching of Chemistry and research in Chemistry education at the tertiary level and generated a lot of interest in teachers to pursue studies in Chemistry education.

The ACT newsletter which is published online as a quarterly is accessible on the ACT website and includes articles on Chemistry themes.

ACT interacts with Government Education Departments and assists in syllabi framing and implementation.

ACT Awards
To honor and felicitate the outstanding Chemistry teachers of the country, ACT has instituted six awards including Life Time Achievement Award which is given to a superannuated Chemistry teacher in recognition of his/her distinguished services to Chemistry teaching and research.

To commemorate IYC 2011, ACT and Tata Chemicals, Mumbai instituted "ACT-Tata Chemicals Best Chemistry Teacher Award" in five categories.

CONFERENCE THEME

Chemistry is a branch of science that is rapidly developing. It influences society a great deal; it is applied in food and pharmaceuticals, dyes and paints, clothing and footwear, in fact in all walks of life. It is also associated with the life processes and with the environment surrounding us. Advanced analytical techniques and improved industrial methods are introduced from time to time to cope with the growing demands of civilization and also to solve newer problems created mostly out of human activities. It is necessary to motivate the students about this subject and acquaint them with its vibrant dimensions. One of the mandate of Association of Chemistry Teachers (ACT) is to make sustained efforts towards improving the quality of Chemistry education in the country and to enhance awareness about the prospects and job opportunities in the area of chemistry, particularly among the educated youth. There are a number of prehistoric sites of great interest

MESSAGE

I am honoured to be part of this **"Two Day International conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Science and Technology (ICETCPEST-2017)"** being organized by P. R. Govt. College, Kakinada in association with Anveshana Educational and Research Foundation and ACT, Mumbai on 24th & 25th January 2017. I hope the deliberations in the conference will bring out useful results as it provides an opportunity to exchange ideas of people from Academia, Research Institute and Industry. This will also help young students and research scholars of the Institution.

Sri. THOTA NARASIMHAM
Hon'ble Member of Kakinada Parliamentary Constituency

MESSAGE

On behalf of **P. R. Govt. College, Kakinada,** I am glad to welcome you to the **"Two Day International Conference on Emerging Trends in Chemical Pharmaceuticals, Environmental Sciences & Technology (ICETCPEST-2017)"** being organized by P.R.Government College in association with Anveshana Educational and Research Foundation and ACT, Mumbai is organizing a on 24th & 25th January, 2017. I congratulate P.R.Government College, Kakinada and Anveshana Educational and Research Foundation (AERF) for providing a suitable platform to the researchers and planners to present their research findings and share their thoughts.

In the present era of globalization, the integration of knowledge of various sectors (like chemical, pharmaceutical, Environmental sciences and technology etc,) is needed to address the challenges. The present conference **ICETCPEST-2017** is a good platform to bring the researchers in the field of chemical, pharmaceutical, Environmental sciences and technology together.

I hereby express my best wishes to all the participants and resource persons towards successful deliberations and also my best wishes to the organizers for a successful conference.

Dr. C. KRISHNA, M.Sc.Tech., Ph.D
Principal, PR. Government College (Autonomous), Kakinada

MESSAGE

"Time moves slowly but passes quickly, Life is a onetime offer use it well"

I am honored and delighted to welcome you to the **"Two Day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Sciences and Technology (ICETCPEST - 2017)**"

International conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Sciences and Technology (ICETCPEST-2017) - aims to capitalize on the rapid growing field of technology in pharmaceutical, Environmental Sciences and providing an interdisciplinary forum for scientists, researchers, engineers, technologists and industrialists of this field and to exchange information on the recent developments. The conference covers broad theme on this area to accommodate wide range of interests and to facilitate interdisciplinary collaboration/interaction in both academia and industry. The conference will also provide an ideal environment to develop new collaborations and opportunities to meet the experts working on various areas of Chemical, Pharmaceutical, Environmental Sciences and Technology. Moreover, ICETCPEST-2017 will provide an international forum for the exchange of technical information through plenary lectures, invited talks, presentations by researchers and scientists.

D. RAMA RAO
PI BRNS-BARC Project
P.R. Govt. College (A) KAKINADA

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Date: 24th & 25th January 2017

MESSAGE

On behalf of Anveshana Educational and Research Foundation, I am Glad to welcome you to the **"Two-day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Science and Technology (ICETCPEST – 2017)",** being organized by Pithapur Rajah's Government College in association with Anveshana Educational and Research Foundation (AERF) and Association of Chemistry Teachers (ACT) continues the Traditions of Addressing issues of immediate and long term interest to researchers through technological innovations.

The aim of the **ICETCPEST - 2017** has always been to provide an international forum for individuals from all over the world. I would like to thanks to all author for their outstanding Contributions and in particular the members of the Organizing and Advisory Board for their extreme support for making the conference a Grand Success.

Dr. D. SUCHARITHA
Director – AERF

MESSAGE

I am glad to know that P. R. Government College, Kakinada in association with Anveshana Educational and Research Foundation (AERF) and Association of Chemistry Teachers (ACT) is organizing an **"Two-day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Science and Technology (ICETCPEST – 2017)"** on 24th & 25th January 2017 which helps young generation at pharmacy profession.

I really appreciate P.R.Government College and AERF organizing committee for conducting conference like this to lead India globally. I wish all the delegates a successful techno career and take the privilege to welcome you all to this International Conference ICETCPEST-2017.

We look forward for your participation.

With best wishes.

Dr. S. CHAKRADHAR GOUD
Principal
Sana Engineering College, Kodad

MESSAGE

It is a great honour and privilege to express my personal greetings to all the team of Chemistry faculty of P. R. Government College (Autonomous), Kakinada on the grand occasion of **"Two Day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Sciences and Technology"** on 24-25 January 2017.

Chemistry is the core of all basic sciences and has contributed too many breakthroughs in health and medicine during the last century. The thrust areas selected for the conference are well chosen and cover every important component of chemical sciences and provide a great opportunity to the participants to get updated with the latest developments in the topics.

Association of Chemistry Teachers (ACT), Mumbai has created history in organizing significant events at regional, national and international levels in Chemistry Education and Research by extending financial support. ACT has also been playing an important role in Olympiads selection and imparting training to the students to compete at international level in collaboration with Homi Bhabha Centre for Science Education, Mumbai. On behalf of ACT, I express my happiness to associate with the present event and I am sure that all the participants would return after the conference with new concepts and vigour.

I wish the event a grand success

Dr. P.V.S.MACHIRAJU
M.Sc., M.Phil., PGDES., Ph.D
Vice-President
Association of Chemistry Teachers (ACT), South Zone
Professor of Chemistry, DEAN-R&D
Pragati Engineering College (Autonomous)
Surampalem-533437, A.P

MESSAGE

I am very glad to know that the Chemistry Department of P. R. Government College (Autonomous), Kakinada is organizing a **"Two Day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Sciences and Technology (ICETCPEST - 2017)**" on January 24-25, 2017. The Conference encompasses a wide spectrum of sciences which play a pivotal role in our lives.

Some of the important areas which will be covered are Nano science, Materials Science, Natural Product Chemistry, Pharmaceutical Science, Oceanography, Green Chemistry Analytical techniques and Chemistry Education and its role in research. Scientists working in diverse fields will come together and deliver lectures which will of immense benefit to the delegates. There is a great need to innovate Chemistry teaching in our schools and colleges and I am sure the participants will deliberate on devising new teaching and evaluation methodologies.

The Chemistry Department of P R College has an excellent track record of excellent teaching and research. I heartily compliment Prof Dr. Daram Rama Rao, Convener, ICETCPEST-2017 for organizing the conference which is the need of the hour.

Association of Chemistry (ACT) is the national registered association of Chemistry Educators which is pledged to promote excellence in Chemistry education.

ACT organizes several Chemistry related activities all over the country through its six zonal councils including an annual National Convention of Chemistry Teachers (NCCT) sometime in October-November.

I wish the Conference grand success.

Dr. D. V. PRABHU
General Secretary, Association of Chemistry Teachers
Adjunct Professor Department of Chemistry Wilson College, Mumbai

MESSAGE

"Difficult Roads often lead to beautiful destination"
I am very happy that P.R.Government College in association with Anveshana Educational and Research Foundation (AERF) and Association of Chemistry Teachers (ACT) are jointly organizing a **"Two-Day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Science and Technology"** and that a souvenir is being publish on this occasion.
The Theme chosen for the conference is of topical interest. This conference provides platform to various scholars and professors to exchange new ideas, application experiences and also to establish business or research relations and to find global partners for future collaboration.

I take this opportunity to congratulate the Principal, teachers, and supporting staff and students for their achievements and wish them all success in their future endeavors.

I Congratulate the Organizers for providing a platform for this interaction through this Conference.

I wish the Conference a great Success.

E.V.S. SUBRAMANYAM
Head, Department of Chemistry
P.R.Government College

MESSAGE

I am happy to note that P.R.Government College in Association with Anveshana Educational and Research Foundation (AERF) and Association of Chemistry Teachers (ACT) is organizing a **"Two Day International Conference on Emerging Trends in Chemical, Pharmaceutical, Environmental Sciences and Technology (ICETCPEST - 2017)**" at Kakinada on 24th & 25th January 2017.

I firmly believe that this Conference provides a perfect platform to share the views of the students coming from various institutions and provides an opportunity for exchange of ideas among students. I hope this provides better interaction between various Academicians, Research Scholars, and Industrialists to upgrade their knowledge.

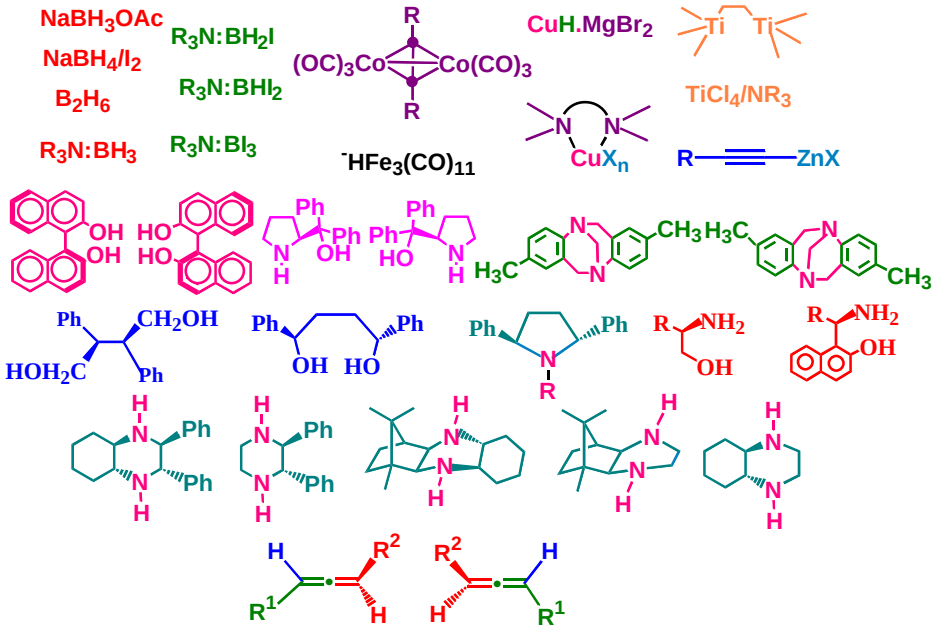
I wish the organizers all the best and hope they will conduct similar programmes in future for the benefit of Nation.

Dr. MALLIKARJUNA RAO. T
Assistant Professor
Adigrat University, Ethiopia

KEYNOTE ADDRESS

MARIAPPAN PERIASAMY
School of Chemistry, University of Hyderabad, Central University, P.O., Hyderabad - 500046, INDIA

It has been always a difficult proposition to take up "intellectually" and "technically" challenging experimental research problems in India since the reagents required for use in finding solutions to such contemporary research problems are not readily accessible in our country. Accordingly, over the years, we have undertaken research efforts on the development of methods to access boron, metal carbonyls, copper, titanium, zinc and chiral reagents[1-9] using simple bench-top chemicals for use under the not-so-sophisticated Indian laboratory conditions.



Recently, we have also initiated research efforts on the development of methods using renewable resources. Salient features of these research efforts will be presented.

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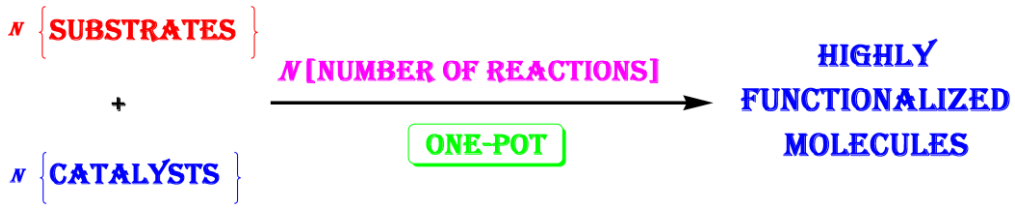
CONFERENCE ADDRESS

DEVELOPMENT OF SUSTAINABLE ORGANOCATALYTIC REACTIONS: DISCOVERY AND APPLICATIONS

DHEVALAPALLY B. RAMACHARY
Professor of Chemistry
Catalysis Laboratory, School of Chemistry,
University of Hyderabad, Hyderabad-500 046 (India)

E-mail: ramsc@uohyd.ac.in and ramchary.db@gmail.com

The discovery of in situ generated novel reactive species and their applications in cascade sequential one-pot reactions to furnish the asymmetric synthesis of drug-like molecules and pharmaceuticals will be discussed [1-9]. My talk on the combination of enamine, enolate, dienamine, aminoenyne, aminal and iminium technology will be covering the combinations of one-pot cascade reactions to generate the highly functionalized chiral molecules, which have shown pharmaceutical applications.



Acknowledgments: I sincerely thank all my students for their invaluable contributions to the work described in this talk and I also thank DST, CSIR, UGC and HCU for financial support.

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INVITED TALK

IMPORTANCE OF MARINE ECOLOGICAL STUDIES FOR EMERGING RESEARCH IN PHARMACOLOGY

Dr. P. SIVAPERUMAL

Center for Environmental Nuclear Research, Directorate of Research
SRM University, Kattankulathur, Tamil Nadu

E-mail: marinesiva86@gmail.com; sivaperumal.pi@ktr.srmuniv.ac.in

Marine Ecology is the scientific study of marine-life habitat, populations and interactions among organisms and the surrounding environment including their abiotic and biotic factors. Marine ecology is a subset of the study of marine biology and includes observations at the biochemical, cellular, individual, and community levels as well as the study of marine ecosystems and the biosphere. The impact of human activity such as medical research, development, agriculture, fisheries, and forestry is also studied under marine ecology. In some ways, marine ecology is more complex than the relatively straightforward study of a particular organism or environment because of the numerous interconnections, symbiotic relationships, and influence of many factors on a particular environment.

Pharmaceutical research: Seventy-five percentage of earth's surface is covered by water but research into the pharmacology of marine organisms is inadequate, and most of it still remains unknown. Oceans contain more than 80% of diverse plant and animal species in the world. It also offers an ecological resource comprising a variety of aquatic plants and animals. Marine plants such as sea grass, seaweeds and mangroves and organisms such as sponges, tunicates, fishes, soft corals, nudi branchs, sea hares, opistho branch Molluscs, echinoderms, bryozoans, prawns, shells, sea slugs, and marine microorganisms are sources for potential bioactive compounds. These aquatic organisms are resource for new drugs to combat major diseases and it's screened for antibacterial, immune modulator, anti-fungal, anti-inflammatory, anticancer, antimicrobial, neuro protective, analgesic, and anti malarial properties also. This emerging Marine Pharmacology research are offers for exploring new drugs from the sea and they may prove to open up a new chapter of making the treatment of chronic diseases cheaper and successful.

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26	**CHEM1026**	**GREEN SYNTHESIS & CHARACTERIZATION OF ZNO NANOPARTICLES & STUDY OF THEIR CATALYTIC ACTIVITY IN ORGANIC SYNTHESIS:** **Authors:** T Varaprasad, Boddeti Govindh, B. Venkateswara Rao
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Date: 24th & 25th January 2017

SPECTRAL STUDIES OF FE^{3+}/$CDOZN_3(PO_4)_2$ NANO COMPOSITE VIA CHEMICAL PRECIPITATION METHOD

[Paper Id – PHY1001]

A Paper Presented by: [1]Y. Naga Bhaskararao, [2]Sandhya Cole
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ABSTRACT

$CdOZn_3(PO_4)_2$ nanocomposites is doped with Fe^{3+} and successfully synthesized by chemical precipitation method. The analysis of X- ray diffraction showed that the material $CdOZn_3(PO_4)_2$ has both monoclinic and cubic structure. Using the Debye–Scherrer method average crystalline size evaluated is 36 nm. the surface morphology of nanocomposite $CdOZn_3(PO_4)_2$ is shows by Scanning electron microscope (SEM) and the Energy dispersive X-ray spectroscopy (EDX) spectrum indicates the presence of a transition metal ion. The crystal field parameter Dq and inter electronic repulsion parameters (B & C) are measured using optical absorption data. From the IR spectra of prepared samples PO_4^{3-} and CdO bands of functional groups are observed. PL studies revealed that white and green emissions.

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Date: 24th & 25th January 2017

SPECTRAL AND LUMINESCENCE PROPERTIES OF DY^{3+} DOPED BOROSILICATE GLASSES FOR LASING MATERIALS AND WHITE LEDS

[Paper Id – PHY1002]

A Paper Presented by: [1]K.Vijaya Babu, [2]Sandhya Cole
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ABSTRACT

A new series of Dy^{3+} doped sodium lead alumino borosilicate glasses were prepared by melt quenching technique and were characterized through XRD, optical absorption and luminescence and structural measurements. The XRD pattern has been recorded to confirm the amorphous nature of the prepared glass samples. Optical absorption spectra of all the glasses are recorded at room temperature. From the observed absorption edges optical band gap, the Urbach energies were calculated. The Judd-Ofelt (JO) intensity parameters Ω_λ (λ = 2, 4 and 6) have been calculated from the oscillator strengths of the different absorption bands to understand the nature of the ligand environment around the Dy^{3+} ions. The various lasing parameters like stimulated emission cross-section (σ_p), branching ratios (β_R), and radiative life time (τ_{cal}) for the $^4F_{9/2} \rightarrow {}^5H_{15/2}$, $^6H_{13/2}$, $^6H_{11/2}$ emission transitions have been calculated. The (x, y) coordinates of the prepared glasses pass through the white light region in the CIE 1931 chromaticity diagram and are suitable for white light emitting devices. Various physical parameters like refractive index, density, molar volume and reflection loss etc., were evaluated.

Keywords: Borosilicate glass, Optical absorption, Judd–Ofelt analysis and Radiative properties.

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DENSITIES AND VISCOSITIES OF BINARY LIQUID MIXTURES OF ETHYL SALICYLATE WITH 2-BUTANONE, 2-PENTANONE, 3-PENTANONE AND 4METHYL-2-PENTANONE AT 293.15K, 298.15K AND 303.15K TEMPERATURE

[Paper Id – CHEM1003]

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ABSTRACT

Density and viscosity properties are used to investigating the physical properties of liquids. These measurements have proved useful in addressing with problems of structure of liquid and molecular interactions in liquid mixtures. These parameters afford valuable information regarding behavior of binary liquid systems, due to intra molecular and inter molecular associations, dipolar interactions, complex formation and related structural changes effect the compressibility of the system.

Densities and viscosities of liquid mixtures of Ethyl salicylate with 2-Butanone, 2-Pentanone, 3-Pentanone, and 4-Methyl-2-Pentanone have been determined at 293.15K, 298.15K and 303.15K for the composition range. From this experimental data, deviation in viscosity, excess molar volumes (V^E), isentropic compressibility (K_S), intermolecular free length (L_f), relative association (R_A) have been computed. The excess molar volumes and deviation in isentropic compressibility are fitted in a Redlich-Kister polynomial type equation to derive binary coefficients and standard deviation.

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Date: 24th & 25th January 2017

SYNTHESIS, SPECTROSCOPIC CHARACTERIZATION, DNA BINDING, CLEAVAGE AND ANTIBACTERIAL ACTIVITY OF CU(II), NI(II) AND CO(II) COMPLEXES DERIVED FROM NOVEL SCHIFF BASES

[Paper Id – CHEM1004]

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ABSTRACT

A series of novel binary metal complexes $M(TFMA)_2$ and $M(TFMB)_2$ where M = Cu(II), Ni(II), Co(II) and L_1=2-((E)-(4-(trifluoromethoxy) phenylimino)methyl)-4-methylphenol [TFMA], L_2=2-((E)-(4-(trifluoro methoxy) phenylimino) methyl) - 5 - methoxyphenol [TFMB] were synthesized. All the metal complexes have been characterized by physic-chemical techniques such as elemental analysis, ^{1}H NMR, ^{13}C NMR, UV–Vis, FTIR, SEM, Mass, ESR, spectral data and magnetic susceptibility measurements. These electronic absorption spectral data studies shows that all the complexes have four-coordinated square planar arrangement around the metal complexes. DNA binding studies (UV absorption, fluorescence and viscosity titrations) investigated against calf thymus (CT-DNA) and cleavage studies (oxidative and photo cleavage) of binary metal complexes have also been investigated against super coiled pBR322 DNA. From the experimental results, it is observed that the complexes are efficient intercallators towards CT DNA and also cleaved pBR322 DNA in good manner. Finally in vitro by paper disc method the compounds were screened for antibacterial activity against few pathogens such as *E. coli, P. aeruginosa, S. saphyphiticus* and *S. aureus* and fungal species *C. albicans* and *A. niger* and observed that the complexes have potent biocidal activity than their free ligands.

Keywords: Schiff base, Binary Metal complex, Viscosity measurements, Fluorescence, Antimicrobial activity, DNA Studies

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Date: 24th & 25th January 2017

SPECTROSCOPIC CHARACTERIZATIONS OF FE^{3+} DOPED $ZN_3(PO_4)_2ZNO$ WHITE LIGHT NANOPHOSPHORS

[Paper Id – PHY1005]

A Paper Presented by: [1]M. Subba Rao, [2]Sandhya Cole
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ABSTRACT

Undoped and Fe^{3+} ion doped $Zn_3(PO_4)_2ZnO$ nanocrystalline phosphors are prepared at room temperature using ball milling method. The synthesized nanocrystalline phosphors are characterized by X-ray diffraction (XRD), Photo Luminescence (PL) and FT-IR. XRD pattern reveals single phase monoclinic structure. The evaluated crystalline size for prepared nanocrystalline phosphors within the range are 54-55 nm, the lattice cell parameters and unit cell volume of phosphors are calculated. From PL spectra, the emission peak indicates that the Fe^{3+} doped $Zn_3(PO_4)_2ZnO$ nanophosphors is potentially suitable green phosphor for white LEDs. The characteristic PL emission confirms the presence of Fe^{3+} ions in octahedral symmetry. FT-IR studies demonstrate the characteristic vibrational modes of phosphate in the prepared sample.

Keywords: Ball milling, XRD, PL, FT-IR.

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SYNTHESIS OF BIODIESEL FROM CRUDE NEEM OIL IN A BATCH REACTOR

[Paper Id – ENGG1006]

A Paper Presented by: [1]S.Sharada, [2]Shirish Sonawane, [3]T.Bala Narsaiah
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ABSTRACT

Biodiesel production from renewable sources is widely considered to be one of the most sustainable alternatives to petroleum sourced fuels and a viable means for environmental and economic sustainability. Vegetable oils are most widely used for the production of Biodiesel now-a-days .But these cannot be used directly for the production of biodiesel because they have high viscosity, high flame point and high density. In the present study Neem oil is used to convert it into biodiesel because Neem seeds contain 30-40% of the oil. Neem oil is converted to biodiesel by a two-step process. One is by Acid pretreatment and second is base catalysed Tran's esterification reaction to produce biodiesel of various molar ratios and their properties are characterized.

Keywords: Biodiesel, Tranesterfication, Free fatty acid content, Acid pretreatment, Neem Oil.

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UNDOPED AND MOLYBDENUM DOPED $ZN_3(PO_4)_2ZNO$ NANOPOWDERS WITH STRUCTURAL AND OPTICAL PROPERTIES

[Paper Id – PHY1007]

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ABSTRACT

Undoped and Mo-doped $Zn_3(PO_4)_2ZnO$ nanopowders (NPs) have been successfully synthesized by sol-gel method. The NPs have been characterized by a number of characterizations as x-ray diffraction (XRD), Scanning Electron Microscopy (SEM) Energy Dispersive X-ray diffraction (EDX) and UV-visible spectroscopic techniques respectively at room temperature for 0.2, 0.4 and 0.6 mol% of MoO_3 concentration. The structural characteristics are examined using XRD and SEM with EDX. XRD analysis reveals that all samples are in crystalline nature with monoclinic and wurtzite hexagonal lattice phases, exhibit no other impurity phase. The average crystallite size of NPs is in the range of 20-30 nm increases with increasing dopant concentration. The morphology of the prepared NPs is analyzed with SEM images. The absorption spectra indicate decrease in optical band energy gap (E_g) with increase in molybdenum ion doped into the $Zn_3(PO_4)_2ZnO$ lattice site.

Keywords: Molybdenum ions, XRD, SEM, UV-vis. spectroscopic techniques.

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MODRENTECHNIQUES TO EXTRACT APIS FROM HERBAL PLANTS

[Paper Id – CHEM1008]

A Paper Presented by: [1]R.Brahmali, [2]K.Anand, [3]U.Satynarayana, [4]N.V.Sudhakar
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ABSTRACT

All plant materials used should be properly authenticated. The choice of extraction procedure depends on the nature of the plant material and the components to be isolated. Dried materials are usually powdered before extraction, where as fresh plants (leaves etc) can be omogenized or macerated with a solvent such as alcohol. Alcohol is a general solvent for many plant constituents. Extraction can be defined as the removal of soluble materials from an insoluble residue, either liquid or solid, by treatment with a liquid solvent. There are different methods processes of extraction they are: -

1. Infusion 2. Decoction 3. Maceration 4. Percolation

Infusion: - The weighed quantity of drug is kept in contact with known quantity of men strum for a specified period of time and at the end of the period, the supernatant liquid are collected and poured into receiver. Hence men strum may be either cold or hot depending on drug material. E.g Fresh quassiain fusion.

Decoction: - It is not a official preparation in pharmacopeia. Here known quantity of drug is boiled with the men strum for a specified period of time (15 mins) at the end of which the supernatant liquid is collected. E.g., Coffee or tea decoction.

Maceration: - It is defined as that phase the solid materials with whole of men strum in a closed vessel and allowed to stand for 7 days shaking occasionally strain, press the marc, and mix the liquid obtained with the mother liquor and clarify the filtration.
E.g. For preparing tinctures form organized drugs.

Percolation: - This consists of the downward displacement of the saturated solution formed in above maceration and extraction of the remaining soluble matter by slow passage of men strum through the column of drug.

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TREATMENT OF DAIRY WASTE WATER

[Paper Id – ENGG1009]

A Paper Presented by: G. Nagraju
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ABSTRACT

Present days, dairy industry is growing very fast because of increasing of population and increased productivity to satisfy people needs. Dairy industry gives good products at the same time it releases harmful substances in to the environment, creating health hazards and effecting ecosystem. To treat the dairy waste water we need to know classifications, characteristics and treatment process. The dairy waste water is classified as Cooling wastewater, sanitary wastewater and Industrial wastewater based on organic load and concentration of effluent. The characteristics of these effluents, which include Physical characteristics like odour, P^H, colour and turbidity, and Chemical characteristics like BOD and COD, are important to treat the water. The treatment of dairy wastewater depends on the values of the characteristics. The objective of the present review paper is to give a detailed note on classification, characteristics and treatment processes available for dairy waste water.

Keywords: Dairy wastewater, BOD, COD, lagoons, turbidity

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ASYMMETRIC SYNTHESIS: SYNTHESIS OF CHIRAL C_1-SYMMETRIC PYRROLIDINE DERIVATIVE

[Paper Id – CHEM1010]

A Paper Presented by: Arif Khaja Md
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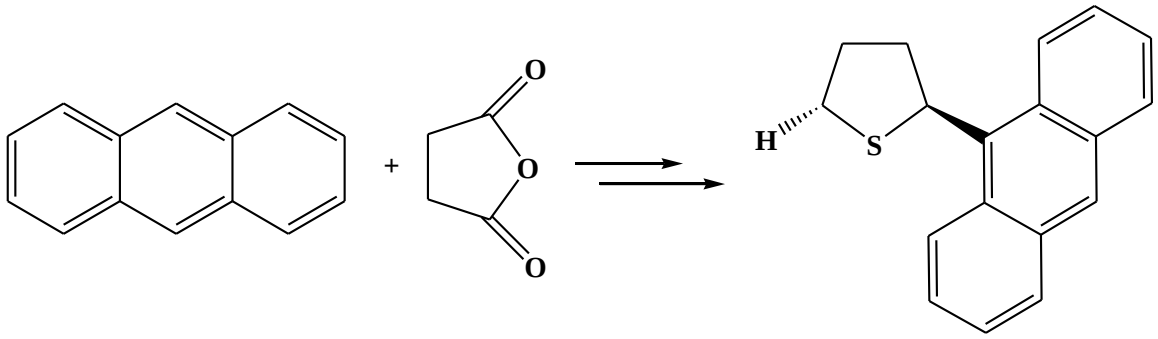
ABSTRACT

Asymmetric catalysis provides outstanding tools to introduce chiral information to a substrate by using only catalytic amounts of chiral transition-metal complex. The C_1- symmetric derivatives such as 2-substituted pyrrolidines derivatives are important class of chiral auxiliaries and used in many asymmetric transformations. Saturated nitrogen heterocyclic including pyrrolidine derivatives occur in a wide variety of natural products, alkaloids and biologically active compounds. This work mainly related to synthesis of chiral C_1-symmetric molecule (S)-2-(anthracen-10-yl)-tetrahydrothiophene and this type of compounds are useful in asymmetric transformations.



(*S*)-2-(anthracen-10-yl)-tetrahydrothiophene

Keywords: C_1- symmetric derivatives- (S)-2-(anthracen-10-yl)-tetrahydrothiophene - Asymmetric Synthesis.

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THE PHASES OF CLINICAL TRIALS INVOLVED IN TESTING A DRUG FOR ITS APPROVAL TO BE USED AS A MEDICINE TO TREAT HUMANS

[Paper Id – BIOT1011]

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ABSTRACT

The phases of clinical research are the steps in which scientists do experiments with a health intervention in an attempt to find enough evidence for a process which would be useful as a medical treatment. In the case of pharmaceutical study, the phases start with drug design and drug discovery, go on to animal testing, then start by testing in only a few human subjects and expand to test in many study participants if the trial seems safe and useful. Testing an experimental drug or medical procedure is usually an extremely lengthy process, sometimes lasting several yearsClinical testing on humans can only begin after a pre-clinical phase, involving laboratory studies (in vitro) and tests on animals, which has shown that the experimental drug is considered safe and effective. However, no animal is sufficiently similar to humans (even genetically modified ones) to make human testing unnecessary. For this reason, the experimental drug must also be tested on humans.In the United States; it takes an average of 12 years for an experimental drug to travel from the laboratory to your medicine cabinet. That is, only if it makes it .Only 5 in 5,000 drugs that enter preclinical testing progress to human testing. One of these 5 drugs that are tested in people is approved. The chance for a new drug to actually make it to market is thus only 1 in 5,000. India is country where the drugs are available at a lower price in order to accommodate the health of common man. India's drug pricing regulator, the National Pharmaceutical Pricing Authority, sets drug prices after careful evaluation of the available maximum retail price, number of players, role of the drug in treatment, and market share of the brands. The objective of this initiative is to bring important, life-saving drugs to the public. The process of drug approval is controlled in most countries by a governmental regulatory agency. In the U.S., the Food and Drug Administration (FDA) governs this process. The FDA requires the following sequence of events before approving a drug:

Keywords: Clinical Research, pharmaceutical, participants, regulator, drug approval

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SYNTHESIS,CHARACTERIZATION AND BIOLOGICAL STUDIES OF COPPER(II),PALLADIUM(II) AND ZINC(II) COMPLEXES OF 4-AMINO-3-METHYL-5-STYRYLISOXAZOLE SCHIFF BASE

[Paper Id – CHEM1012]

A Paper Presented by: [1]Karunakar Dasa, Suvarna.T[2], Raghava Rao.G[3]
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ABSTRACT

Binary complexes of Cu(II),Pd(II) and Zn(II) have been synthesized by reacting metal salts with a Schiff base,3-methyl-5-styryl-4-(2-amino) pyridinylidene aminoisoxazole in an alcoholic medium. All the metal complexes and schiff base have been confirmed by using elemental and spectral data. The ligand and complexes were screened to assess their bacteriocidal activity on two bacterial species viz., Bacillus subtilis and Escheretia coli. It was found that the biocidal activity of complexes is more than that of ligand.

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Date: 24th & 25th January 2017

SYNTHESIS AND ANTIBACTERIAL ACTIVITY OF SOME NEW ISOXAZOLYL TRIAZOLES

[Paper Id – CHEM1013]

A Paper Presented by: [1]Karunakar Dasa, [2]RamaRao.D
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[2]Department of chemistry, P.R. Government College, Kakinada.

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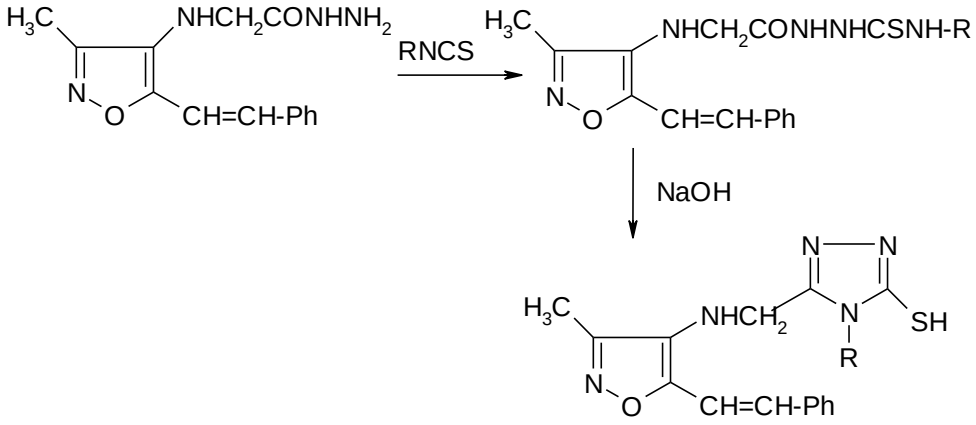
ABSTRACT

2-((3-methyl-5-styrylisoxazol-4yl) amino) aceto Hydrazide on tratment with Alkyl/aryl isothiocynate gave Isoxazolyl semi thiocarbozide, these on cyclization with NaOH yielded Isoxazolyl 1,2,4 traizole 3- thiols. The structure of Isoxazolyl 1,2,4 traizole 3-Thiols have been established by IR,[1]HNMR and mass spectural data. anti bacterial activity has been evaluated against E.Coli and S.aureus.the traizoles have inhibited the growth on these bacterial strains.



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Date: 24th & 25th January 2017

SPECTROSCOPIC STUDIES OF PBO-SC_2O_3-P_2O_5 GLASSES WITH MOO_3

[Paper Id – CHEM1014]

A Paper Presented by: [1]Dr.B.Lakshmana Rao, [2]K.Jyothi Raju, [3]K.Rajani, [4]K.V.Lakshmi , [5]Dr.S.V.G.V.A.Prasad
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[2]Research Scholar, Krishna University, Machilipatnam
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ABSTRACT

PbO–Sc_2O_3–P_2O_5 glasses containing different concentrations of MoO_3 ranging from 0 to 0.5 mol% were prepared. Spectroscopic studies viz., infrared and ESR spectra of these glasses have been carried out as a function of molybdenum ion concentration. The analysis suggests that the molybdenum ions exist in Mo^{5+} state with $Mo(V)O^{3-}$ complexes that act as modifiers in addition to Mo^{6+} state with MoO_4 and MoO_6 structural groups in these glasses.

Keywords: Lead, Scandium, phosphate glasses, Molybdenum ion, infrared spectra and spectra.

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SYNTHESIS AND CHARACTERIZATION OF OXOVANADIUM (IV) COMPLEXES INVOLVING O AND N ENVIRONMENT

[Paper Id – CHEM1015]

A Paper Presented by: Dr. Sutapa Roy
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ABSTRACT

Vanadium plays an important role in life and one of its most relevant properties identified is its capacity to act as insulin-enhancing agent [1, 2], either in the form of its inorganic salts or complexes with organic ligands. Besides the antidiabetic action, vanadium complexes are known to possess potent anticancer activity [3,4], which deserve increasing attention for application to biomedical sciences. Synthesis and studies of Vanadium complexes have induced a considerable amount of interest due to their application as important catalysts in several chemical reactions. In view of the wide application of Vanadium complexes, a series of oxovanadium(IV) complexes involving pyrazolone-based aroylhydrazone [5] and 8hydroxyquinoline have been synthesized and characterized by different physicochemical studies such as elemental analysis, molar conductance, magnetic measurements, infrared, TGA, ESR and electronic spectral studies. The overall experimental data based from all the studies presented suggests the complexes under present investigation are of the general composition [VO(L)(8-hq)(H_2O)], where LH= pyrazolone-based aroylhydrazone and 8-hqH= 8-hydroxyquinoline,involving a monobasic didentate (*O,N*) donor ligand. An octahedral structure with axial oxo groups have been proposed for these complexes.

Keywords: oxovanadium(IV), 4'-benzoyl-3'-methyl-1'-phenyl-2'-pyrazolin-5'-one derivative, salicylic acid hydrazide, benzoic acid hydrazide, hydrazine hydrate, isonicotinic acid hydrazide, 8-hydroxyquinoline

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AN INSTRUMENTAL INSTALLATION FOR THE PUBLIC TO ACQUIRE DATA FOR MONITORING PERSONAL HEALTH AND THE QUALITY OF MARKET PRODUCTS

[Paper Id – CHEM1016]

A Paper Presented by: S. Aravamudhan
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ABSTRACT

This contribution is not any report of experimental or calculated data with inferences; but it is rather a suggestion in consideration of Health Care Management of Health. This suggestion entails an initiative of a kind of public awareness program in order that the people will be able to take their own initiative to collect data, compile them for an appropriate scientist or physician to interpret and enable them to monitor the parameters. It is intended that eventually everyone in the public would become familiarized enough with the measured quantities that they can become independent and seek experts' assistance depending on their requirements. Metabolite analysis in the food products and bio fluids is a technique which is becoming very popular.. The Nuclear Magnetic Resonance Spectroscopic Technique currently is an advanced spectroscopic technique and is found well suited for the Metabolite profiling. Metabolites are the products formed in the metabolic process in the living system, extracts of food items or parts of plants at regular intervals and monitor the contents by the spectroscopy and keep record of the trends observable. Such trend analysis quantitative and qualitative can give rich information to tag the changes occurring in the materials and biological processes in the living systems. A few examples of such monitoring of bio fluids and plant extracts would be illustrated and a possible recording system would be indicated to compile data and store. How the metabolite analysis can be helpful, simple and safe in practice for common public would be indicated with an appraisal of the magnitude of the costs of these instruments would be given to enable how these kinds of enterprises that can be established and maintained. For example, how to realize the initial investment costs on the infra structure is a matter that can be brought to discussion; if the citizens get convinced that this effort is worth the while. For example typically a NMR spectrometer system can cost around 50 crore rupees. At the outset the references listed in this abstract can by a cursory look indicate the importance of the case for such facility in the interest of public involvement in the health monitoring eventually getting educated on the spectroscopy application without having to really learn spectroscopy lessons from first principles.

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STUDY ON THE ENVIRONMENTAL RISKS OF MEDICINAL PRODUCTS

[Paper Id – CHEM1017]

A Paper Presented by: Talari Kalpana[1], Dr.T. Raja Rajeswari[2], Dr. S. Mutta Reddy[3]
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ABSTRACT

The progress made by medical science during the last century and its positive impact on society are well known. Medicinal products are an important element of the medical practice and their beneficial effects (and side-effects) on human and veterinary healths are widely acknowledged. However, the area where we lack a global view is understanding what happens when these medicinal products are discharged into the environment, either through consumption or as unused or expired products. Residues of various types of medicinal products (hormones, anti-cancer, antidepressants, antibiotics, etc.) have been detected in various environmental compartments, such as surface water, groundwater, soil, air, and biota. Such widespread occurrence obviously begs the question whether a concentration of medicinal products in the environment poses a risk for exposed biota or humans. In this context, we discussed about how the medicinal products enter the environment, behaviour of medicinal products, risks on the environment.

Keywords: Medicinal products, Behaviour, Risks, Consumption, Environment

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NOVEL CHARACTERIZATION OF FEW MEDICINAL PLANT LEAVES

[Paper Id – PHY1018]

A Paper Presented by: [1]E.Rajasekhar, [2]N.Ramakrishnaiah, [3]S.JhansiLakshmi
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ABSTRACT

The experiment was designed to evaluate the conductivity, pH-values and transmission percent of traditionally used medicinal plant leaves in the form of powder using distilled water with varied physicochemical characteristics. The distilled water hydrogen ion concentration [pH] was neutral [pH 7.0] while the average pH-values of sample code in increasing order TG [7.13], IB [7.22], NM [7.43], BK [7.45] and NR [7.98]. The results indicated that the NR sample water as shown highest pH- value. There was a significant difference in the pH-values of different samples. The temperature increases conductivity increases. Concentration of the sample increases conductivity also increases by conductivity levels was responsible for the biological activity higher in NR than the rest of the samples. There was a positive significant ($p < 0.05$) relationship between the conductivity of the different samples.

Keywords: Conductivity, leaves, pH-values, transmission percent, wavelength.

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IMPORTANCE AND CARRIER OPPORTUNITIES IN HEALTHCARE MANAGEMENT

[Paper Id – PHY1019]

A Paper Presented by: [1]Dr. Neelima Vanukuru, [2]Dr. Srinivasa Rao Vanukuru
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[2]Lecturer in Physics, Government Degree College, Rampachodavaram, E.G.Dt.,

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ABSTRACT

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Healthcare management is the profession that provides leadership and direction to organizations that deliver personal health services, and to divisions, departments, units, or services within those organizations. There are three levels in health care in India, Primary, secondary and tertiary. It is the first level of contact of individuals, the family and community with the national health system, where primary health care or essential health care is provided through the agency of health guides and trained dais, by primary health centers and sub-centers. The secondary or intermediate level of care deals with more complex problems. It is usually provided by community health centers and district hospitals. The tertiary is a more specialized level and requires specific facilities and is usually provided by regional or central level institutions like medical college hospitals, all India institutions, regional hospitals, specialized hospitals, other apex institutions.

This is an exciting time for healthcare management. Healthcare is changing more rapidly than almost any other field. The field is changing in terms of how and where care is delivered, who is providing those services, and how that care is financed. Healthcare management requires talented people to manage the changes taking place. In their roles, healthcare executives have an opportunity to make a significant contribution to improving the health of the communities their organizations serve. The six important functions of managers in healthcare management are Planning, Organizing, Staffing, Controlling, Directing and Decision making. In this paper the importance and carrier opportunities in healthcare management sector are discussed.

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Date: 24th & 25th January 2017

EVOLUTION FROM GREEN TO SUSTAINABLE CHEMISTRY

[Paper Id – CHEM1020]

A Paper Presented by: [1]Dr G. Vayu Kumar, [2]D. Satya Prasad
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ABSTRACT

The significant approach of the terms Green Chemistry and Sustainable Chemistry is different. Sustainable chemistry is the maintenance and continuation of an ecological-sound development, whereas Green chemistry focuses on the design, manufacture, and use of chemicals and chemical processes that have little or no pollution potential or environmental risk and are both economically and technologically feasible. The term Sustainable chemistry is now preferred over Green chemistry and this practice is extending worldwide. We could add that Sustainable chemistry is not synonymous with Green chemistry. It is the chemistry having a lower impact on environment and human health, but goes beyond the latter concepts, seeing chemistry as a part of an integrated vision where chemistry, sustainability and innovation are three key components for the future of our society. Sustainability through chemistry is an approach that starts from Green chemistry concepts and goes on to a vision for the future sustainability of society. This is clearly a process of evolution and this work aims to contribute to this goal by presenting some of the concepts and tools necessary to reach this scope. Analysis is carried on some examples of interesting case histories, written from researchers operating in companies to better understand with practical cases the opportunities and problems in developing this new sustainable industrial chemistry. This evolution from Green to Sustainable chemistry parallels the change in the concept of sustainability that has occurred in the last few years. The original concept of sustainability emphasized the needs to combine social objectives (health, quality of life, employment) to the management of scare resources (energy and raw materials) and the preservation of the natural bases of life. The actual concept of sustainability is broader and takes into the account that sustainability is also the engine for innovation.

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STRUCTURAL AND GAS-SENSING PROPERTIES OF NANOCRYSTALLINE $(CDO)_x(ZNO)_{1-x}$ MIXED OXIDE

[Paper Id – PHY1021]

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ABSTRACT

A sensor having high sensitivity and selectivity for CO gas was prepared using sol-gel synthesized cobalt-doped $(CdO)_x(ZnO)_{1-x}$ thick films. The structural, and gas sensing properties of $(CdO)_x(ZnO)_{1-x}$ thick films were studied. XRD confirmed the single-phase polycrystalline nature of the synthesized ZnO nanomaterials. The change in the resistance of the sensing material which is the measure of its response and selectivity of the sensor were enhanced by doping different concentrations of Cd in ZnO thick films. The sensor exhibits high response and selectivity towards CO for x= 0.05 CdO doped ZnO thick films.

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INVESTIGATION OF STRUCTURAL, OPTICAL, CATALYTIC, FLUORESCENCE STUDIES OF ECO-FRIENDLY SYNTHESIZED BI_2S_3 NANOSTRUCTURES

[Paper Id – CHEM1022]

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ABSTRACT

A simple solution phase method has been developed for the synthesis of rib nucleosides capped Bi_2S_3 nanostructures (NSs) with an average diameter of 15 nm and length of below 100 nm. Transmission electron microscopy (TEM), selected-area electron diffraction (SAED), and X-ray diffraction (XRD) studies revealed that these NSs were grown from a colloidal dispersion of amorphous Bi_2S_3particles, which was first formed through a thermal reaction at a temperature of 60°C. The phase and structure of the Bi_2S_3 NSs have been identified by using X-ray powder diffraction. The crystal structure had orthorhombic structure. The surface properties and morphology have been investigated using scanning electron microscope (SEM) technique. The N_2 sorption–desorption experiments showed that the surface area of the NSs was 6.35 m^2 g^{-1} by Brunauer–Emmett–Teller (BET). The experiments showed that the Bi_2S_3NSs prepared in the present work could be used as catalyst for the reduction of SO dye using a reducing agent. It was found that the as-obtained Bi_2S_3 NSs contributed to the best catalytic activity. Photoluminescence experiments showed a quenching of the Bi_2S_3 fluorescence with increasing L-cysteine (Cys) content in the solution. Furthermore, the proposed NSs as sensor were employed for the determination of metal ions with satisfactory results.

Keywords: Green synthesis, Bi_2S_3 NSs, Rib nucleosides, Catalytic activity, SO dye, Fluorescence study.

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PLZT(12/40/60) QUANTUM DOTS-B-PVDF NANOCOMPOSITES BY COPRECIPITATION FOR ENERGY HARVESTING APPLICATIONSON

[Paper Id – PHY1023]

A Paper Presented by: [1]KoduriRamam, [2]y.Aditya,[3]y.Deepak, [4]k.Chandra Mouli

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ABSTRACT

This presentation highlights the first phase results of piezoelectric PLZT 12/40/60 (PLZT: Lead Lanthanum Zirconium Titanate) quantum dots for energy harvesting applications. Electro ceramic quantum dots (EQDs) were synthesized by cost-effective co-precipitation chemical route and were analyzed to understand size and shape-tuned piezoelectric QDs energy harvesting mechanism. XRD patterns of crystalline PLZT quantum dots attested the pure (without any intermediate phase's formation) tetragonal phase. Transmission electron microscopy studies revealed almost spherical morphology QDs in size ranging between 12 and 23 nm achieved by means of size controlled morphological quantum dots during co-precipitation process. The dielectric tendency of sintered ceramics have shown ε_{RT} = 1078 with $\tan\delta_{RT}$ = 0.006 and ε_{Tc} = 8109 with $\tan\delta_{Tc}$ = 0.009 at 1 kHz. The piezoelectric coefficient of pure ceramic system had resulted as d_{33} = 348 pC/N and piezoelectric PLZT quantum dots dispersed β-PVDF nanocomposite had shown optimum piezoelectric response applicable for flexible energy harvesting applications in extreme conditions.

Keywords: PLZT Quantum Dots, PLZT, β-PVDF, Dielectric, Piezoelectric, Nanocomposites, Energy harvesting.

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MICROWAVE-ASSISTED ONE POT SYNTHESIS OF α-D-ALLOSYL LINKED HETEROCYCLIC COMPOUNDS THROUGH 1,2,3-TRIAZOLES AND THEIR BIOLOGICAL EVALUATION

[Paper Id – CHEM1024]

A Paper Presented by: [1]Vasudeva Reddy Nagavelli, [2]Ranjith Kumar. T, [3]Sirassu Narsimha, [4]Savitha Jyostna Tangeda.
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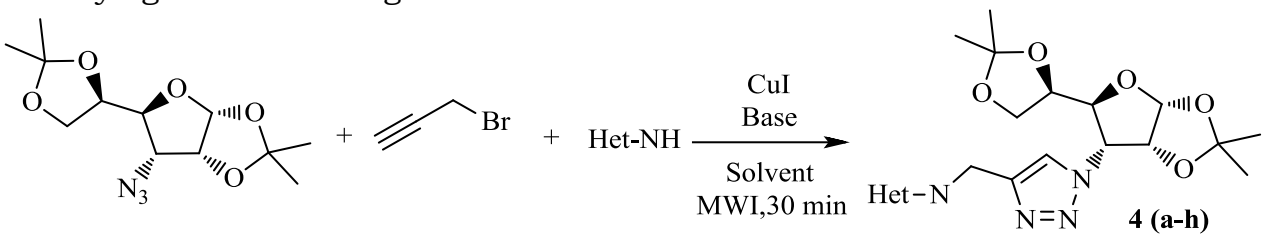
ABSTRACT

A series of α-D-allosyl linked heterocyclic compounds containing 1,2,3-triazoles (**4a-h**) were synthesized by copper catalyzed one-pot three component 1,3-dipolar cycloaddition of α-D-allosyl azide, propargyl bromide with different N-heterocyclic compounds under microwave irradiation. The synthesized 1,2,3-triazoles were tested *in vitro* anticancer and antimicrobial activity. The *in vitro* anticancer screening results revealed that compound **4c** have shown potent activity against HeLa, A-549 and IMR-32 as compared with the standard reference drug doxorubicin. The antimicrobial activity screening results revealed that **4b** and **4h** showed potent antibacterial activity and compound **4a**, **4e**, and **4g** showed appreciable antifungal activity against tested organisms.



1 **2** **3 (a-h)** **4 (a-h)**

Het: **a**-indole; **b**-7-azaindole; **c**-benzimidazole; **d**-pyrazole; **f**-imidazole; **g**-morpholine; **h**- thiomorpholine

Keywords: One-pot MWI; α-D-allosyl; N-Heterocycles; 1,2,3-triazole; anticancer; antimicrobial .

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TIO_2/ZNO: TYPE-II HETEROSTRUCTURES FOR ELECTROCHEMICAL DYE DEGRADATION

[Paper Id – CHEE1025]

A Paper Presented by: [1]T. Jalajakshi Sudha [2]Maheswari, [3]Dilip Kumar Behara
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ABSTRACT

The textile industries have a high promising impact on environment due to the discharge of large amount of dye effluents. Semiconductor nanoparticle assemblies play a major role to treat dye effluents. In present studies, a combination of stable, non-toxic semiconductor materials TiO_2 and ZnO forming Type-II heterostructure was selected. The fabricated electrode assembly on Titanium (Ti) substrate was tested for electrochemical degradation of crystal violet dye. Cyclic Voltammetry combined with UV-Visible analysis was used to identify the cathodic and anodic peak currents and helps us the trace the exact mechanism of dye degradation. It was observed that the catalytic performance of TiO_2/ZnO nanocomposites is higher than individual material interfaces due synergistic interaction and synchronized charge transport which facilitate not only the free electron path at composite surface but also accommodates more dye molecules to interact with oxidants. The outcomes of this study will help to design more pronounced heterostructure assemblies for degradation of complex dye molecules.

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GREEN SYNTHESIS & CHARACTERIZATION OF ZNO NANOPARTICLES & STUDY OF THEIR CATALYTIC ACTIVITY IN ORGANIC SYNTHESIS

[Paper Id – CHEM1026]

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[2]*Department of HSS, Raghu Institute of Technology,Visakhapatnam, Andhra Pradesh.*
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ABSTRACT

Nanoparticles are used immensely due to its small size, orientation, physical properties, which are reportedly shown to change the performance of any other material which is in contact with these tiny particles. These particles can be prepared easily by different chemical, physical, and biological approaches. But the biological approach is the most emerging approach of preparation, because, this method is easier than the other methods, ecofriendly and less time consuming. The semiconductor ZnO has gained substantial interest in the research community in part because of its large exciton binding energy 60 meV which could lead to lasing action based on exciton recombination even above room temperature. The Green synthesis was done by using the aqueous solution of Lingzhi ethonolic extract and zinc acetate. A fixed ratio of plant extract to metal ion was prepared and the color change was observed which proved the formation of nanoparticles. The nanoparticles were characterized by UV-vis Spectrophotometer, FTIR, XRD, and SEM. The particles synthesized were examined for the catalytic activity in the organic synthesis.

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TIO_2/FE_2O_3: TYPE-I HETEROSTRUCTURES FOR ELECTROCHEMICAL CRYSTAL VIOLET DYE DEGRADATION

[Paper Id – CHEE1027]

A Paper Presented by: [1]Mukkara Sudha Maheswari, [2]T. Jalajakshi, [3]Dilip Kumar Behara
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ABSTRACT

Semiconductor materials play an important role in extracting needful energy from existing renewable energy forms. In particular, several individual semiconductor materials such as TiO_2, Fe_2O_3, ZnO etc have been extensively used for dye degradation studies. However, the efficiency of the process can be improved by forming heterostructure assemblies to extract better electric flux at the heterojunction formed. Herein, TiO_2/Fe_2O_3 Type-I heterostructure is proposed for crystal violet dye degradation studies. The fabricated electrode assembly on Titanium (Ti) substrate was tested for electrochemical degradation of crystal violet dye. Decolourization studies were conducted by using UV-Visible analysis and Cyclic Voltammetry. TiO_2/Fe_2O_3 nanocomposites showed higher rate of degradation than individual materials due to the synergistic interaction across interphases which facilitates free electron path and accommodates more oxidants to interact with dye molecules. The outcomes of present study will help to design more pronounced heterostructure assemblies of semiconductor materials for degradation of complex dye molecules.

Keywords: Heterostructure, TiO_2, Fe_2O_3, Electrochemical, Crystal violet dye, Dye degradation.

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SYNTHESIS AND CHARACTERIZATION OF CdS NANOPARTICLES USING REISHI MUSHROOM

[Paper Id – CHEM1028]

A Paper Presented by: [1]Shaik Raziya, [2]Bokka Durga, [3]Santoshi G Rajamahanthe, [4]Boddeti Govindh, [5]Nowduri Annapurna.

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ABSTRACT

Development of environmentally benign methods for the synthesis of nanoparticles is an evolving important branch of nanotechnology. The green synthesis of CdS nanoparticles has been regarded as the most promising technique for their prospective applications in biological system. Cadmium Sulfide nanoparticles were synthesized by using Reishi mushroom aqueous extract as a convenient, non-toxic and eco- friendly 'green' capping /reducing agent. The present study explains a simple, cost effective way of nanoparticle synthesis suitable for large scale production. Excitation of blue shift in UV-Vis spectroscopy reveals the formation of nanoparticles.TEM, XRD, SEM was used to study the morphology, distribution, crystallinity and size. Biological activity was studied using the bacterial strain *S. aureus* and *A. Niger.*

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SYNTHESIS AND CHARACTERIZATION OF TCCA CATALYZED AZINE DERIVATIVES

[Paper Id – CHEM1029]

A Paper Presented by: [1]A.L.V Ramana Reddy, [2]T.Bhupal Reddy
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ABSTRACT

The conversion of carbonyl compound **1** into the azines **2** is easily accomplished at 0° C to room temperature in the presence of excess liquid ammonia. Either a ketone or an aldehyde for symmetrical azines .and unsymmetrical azines were synthesized by using different carbonyl compounds. Comparing aquo- (H-O-H) and ammono- (H-NH-H) systems, hydrazine (H-NH-NH-H) can be regarded as the ammono analogue of hydrogen peroxide (H-O-O-H).

Keywords: Carbonyl compounds, trichloroisocyanuricacid, cinnamaldehyde.

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BIOLOGICAL SYNTHESIS AND CHARACTERIZATION OF PLATINUM NANOPARTICLES USING *SAPINDUS MUKOROSSI* GAERTN. FRUIT PERICARP

[Paper Id – CHEM1030]

A Paper Presented by: [1]M Naresh Kumar, [2]Boddeti Govindh, [3]Nowduri Annapurna
[1]Department of HSS, Raghu Institute of Technology, Visakhapatnam, Andhra Pradesh.
[2,3]Department of Engineering Chemistry, AU College of Engineering (A), AndhraUniversity, Visakhapatnam, Andhra Pradesh.

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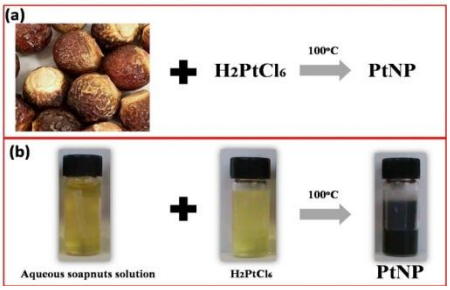
ABSTRACT

Platinum nanoparticles can be prepared by numerous methods such as reduction of ethanol, water–in-oil microemulsion, polyol synthesis, supercritical fluid, the ambient pressure drying method, sputtering methods, the sono-electrochemical method and the microwave irradiated methods. Nevertheless, these conditions are hampering the industrial preparation of platinum nanoparticles in terms of requiring expensive instruments and uses of toxic reagents. Therefore, the use of biological materials such as microorganisms and plant materials could be a prominent alternative approaches for the above mention approaches for the synthesis of platinum nanoparticles in an Industrial preparation manner. Instead the use of plant materials in place of microorganisms has more advantages including the elimination of elaborative processes and maintenance of cell cultures. In view of these facts, herein, we report a biological, eco-friendly and economic procedure for preparation of platinum nanoparticles by thermal treatment in presence of aqueous solution of Sapindus *mukorossi* Gaertn. Fruit pericarp extract as reducing and stabilizing agent (**Figure 1**).



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A FACILE SYNTHESIS OF 2-ARYL-2,3-DIHYDROQUINAZOLIN-4(1H)-ONES AND 5-ARYL-5,6-DIHYDRO-1-METHYL-3-PROPYL-1H-PYRAZOLO[4,3-D]PYRIMIDIN-7(4H)-ONES

[Paper Id – CHEM1031]

A Paper Presented by: [1]K. Shashikala, [2]E. Laxminarayana, [3]Ramesh Malothu ,[4]M. Thirumala Chary
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[3]Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh
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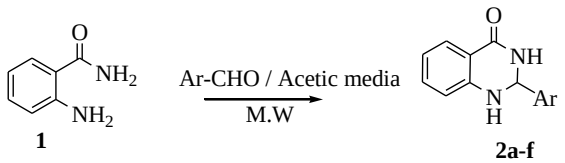
ABSTRACT

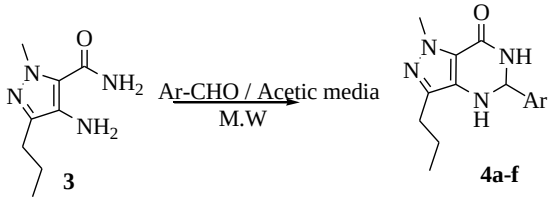
2-Aryl-2,3-dihydroquinazolin-4(1H)-ones **(2a-f)** and 5-Aryl-5,6-dihydro-1-methyl-3-propyl-1H-pyrazolo[4,3-d]pyrimidin-7(4H)-ones **(3a-f)** were synthesized by the condensation of 2-aminobenzamide **(1)** and 4-amino-1-methyl-3-propyl-1H-pyrazole-5-carboxamide **(3)** respectively with different aldehydes. All title compounds were characterized by ^{1}H, ^{13}C and mass spectra.

Scheme-I



1 **2a-f**

Scheme-II



3 **4a-f**

Ar = 4-Chlorophenyl, 2-Aminophenyl, 3-Nitrophenyl, 4-Nitrophenyl, 2-Methoxyphenyl, 4-Methoxyphenyl

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SYNTHESIS OF SUBSTITUTED TETRAZOLO THIAZOLIDINES-2,4-DIONES AND THEIR ANTI MICROBIAL ACTIVITY

[Paper Id – CHEM1032]

A Paper Presented by: Ramesh. B
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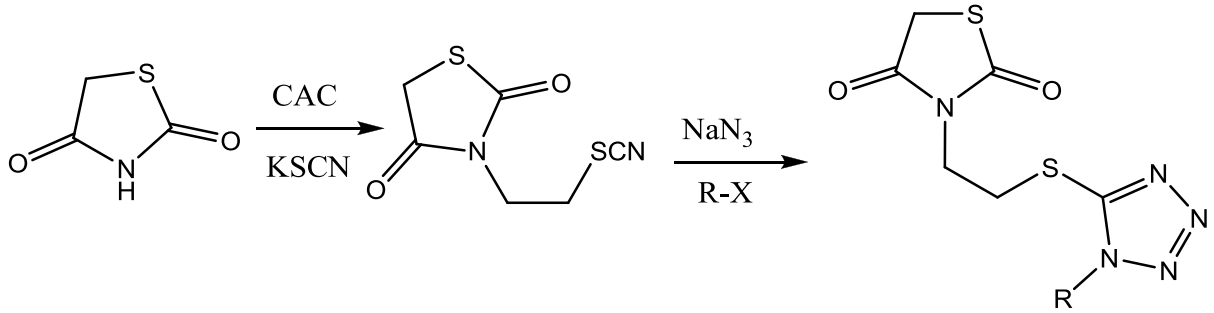
ABSTRACT

Tetrazoles are in increasingly popular skeleton with wide ranging applications. They are used in pharmaceuticals as lipophilic spacers and carboxylic acid surrogates, which improves oral absorption. Substituted-1,2,3,4-Tetrazoles were reported to possess antinoceceptive activity, antibacterial, antifungal, anti-viral, anti-inflammatory and anti ulcer activities. The tetrazole function is metabolically stable this featured a close similarity between the acidic character of the tetrazole group have inspired medicinal chemists to synthesize substituted tetrazoles as potential medicinal agents. In this our aim is to synthesis of the combination of the 4-thiazolidinone template with substituted tetrazole moieties which are also known to having several biological activities in one molecule can be considered as promising approach in drug-like molecules design. Compound thiazolidinone-2,4-dione is treated with dibromo ethane in the presence of base to form corresponding bromo compound**.** This compound is treated with potassium thiocyanate and cyclization with azide than followed by alkylation to form corresponding title compounds.



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REPLACING CRITICAL MATERIALS WITH ABUNDANT MATERIALS

[Paper Id – CHEM1033]

A Paper Presented by: [1]D.Rama Rao, [2]T.Vara Prasad, [3]M.V.K.Mehar
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ABSTRACT

Replacing critical materials with abundant materials, particularly in applications that use large amounts of catalysts, would have many benefits. Abundant materials are cheaper, and more environmentally benign. Cheap and abundant metals also can be less selective, less tolerant of functional groups. Palladium-based homogenous catalysis, in particular, is of critical importance in the pharmaceutical and agricultural industries for forming carbon-carbon bonds. The 2010 Nobel Prize in Chemistry was awarded for palladium-catalyzed cross-coupling reactions, which can be used to make virtually any type of carbon-carbon bond needed. The powerful Buckwald-Hartwig carbon-nitrogen bond-forming reactions are another class of palladium-catalyzed chemistries used widely in the pharmaceutical and agricultural industries .But palladium is 3,000 times more expensive than copper and 4,000 times more expensive than nickel. It is possible, though, to substitute less expensive metals for palladium. A copper iodide/L-proline catalyst, for example, can be used to form carbon-carbon and carbon-nitrogen bond. A nickel catalyst can be used to make carbon-carbon bonds with some stereo selectivity, which enables the assembly of fairly complex organic molecules. In addition to the large price advantage that comes with substituting a prevalent, cheap metal for a rare, expensive metal, cheap metals are often environmentally more benign. Losses of metal are more easily tolerated in an industrial process, which can reduce or eliminate the recycling steps that are almost mandatory with expensive metal catalysts. The reasons that more cheap metal catalysts are not widely used today is that reactions catalyzed by cheap metals have not been widely studied to date, though they are receiving more attention now. Another reason is that the selectivity of cheap metal catalysts is not as good as is obtained with palladium catalysts, and the scope of the reactions is not as broad.

Keywords: Materials, Abundant, homogenous, But palladium, agricultural, catalysts.

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MIRABILITE IN POLYMERIC FOAM FOR THERMAL ENERGY STORAGE APPLICATION

[Paper Id – CHEE1034]

A Paper Presented by: [1]Bijoy Kumar Purohit, [2]V. S. Sistla
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ABSTRACT

Phase change materials (PCMs) in thermal energy storage (TES) application offer high storage density per unit weight, within a small temperature difference, than sensible heat storage systems. Compared to organic PCMs, inorganic salt hydrates offers high energy storage density, low heat of combustion and relatively high thermal conductivity. On the other hand, super cooling and phase segregation are the main disadvantages which confinesthem for TES application. In this work, at first formation of an inorganic PCM ($Na_2SO_4.10H_2O$) through solution crystallisation was discussed followed by their application in TES systems. Formation of $Na_2SO_4.10H_2O$ (on both homogeneous and heterogeneous-Polyvinylidene difluoride nucleation condition) from aqueous solutions, with no stirring condition, using anhydrous sodium sulfate as a raw material was done. Differential scanning calorimetry (DSC) analysis of the crystals formed from both nucleation steps and the effect of polymeric heterogeneous surface during its nucleation is discussed. Hydrate crystals formed on the surface of heterogeneous surface even at upper surface of the solution can leads to mitigate the problem of phase segregations. Using this hint, an experimental model having salt solution within heterogeneous surface was prepared for TES study.PU-PCM composite having salt solution of Na_2SO_4within pores of an open cell polyurethane foam (PU foam)was prepared. The formation of hydrates inside the foam pore structure confirmed from both DSC and microscopic analysis. Composites thermal insulation capability with normal dry PU foam were compared and results are discussed.

Keywords: Inorganic Salt Hydrate; Phase Change Material; Thermal Energy Storage; Heterogeneous Crystallization; Open Cell Polyurethane Foam.

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Date: 24th & 25th January 2017

SYNTHESIS AND CHARACTERIZATION OF CADMIUM SULPHIDE NANOPARTICLES USING ANNONA MURICATA LEAF EXTRACT AS REDUCING/CAPPING AGENT

[Paper Id – CHEM1035]

A Paper Presented by: [1]Bokka Durga, [2]Shaik Raziya, [3]Santoshi G Rajamahanti, [4]Boddeti Govindh, [5]Korimella Vijaya Raju, [6]Nowduri Annapurna.
[1,2,3,4,5] Department of Engineering Chemistry, AU College of engineering (A), Andhra University, Visakhapatnam, Andhra Pradesh.
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ABSTRACT

Cadmium sulphide nanoparticles (CdS) have a great role in chemical research, bio- technology and medicine. The present study mainly involves development of an efficient and environmental friendly method of synthesis of cadmium sulphide nanoparticles by chemical precipitation method using green materials. Annona muricata leaf extract was used as a capping/reducing agent for the preparation of CdS nanoparticles. TEM, XRD, SEM with EDS and UV-Vis spectroscopy were used to study the morphology, distribution, crystallinity and size of the particle. Biological activity was studied using the bacterial strain staphylococcus aureus and aspergillus Niger.

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Date: 24th & 25th January 2017

CATALYTIC APPLICATIONS OF *SAPINDUS EMARGINATUS* FRIUT PERICARP DERIVED SILVER NANOPARTICLES

[Paper Id – CHEM1036]

A Paper Presented by: [1]Boddeti Govindh, [2]Bhagavathula S. Diwakar, [3] Vemuri Srikanth, [4]Venu Reddy

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ABSTRACT

Synthesis of silver nanoparticles (Ag-NPs) was accomplished by a green procedure employing aqueous solutions of *Sapindus emarginatus* fruit pericarp. The size of nanoparticles obtained are in range of 2–19 nm which is achieved by the reduction of silver ions with the aqueous extract of *Sapindus emarginatus* fruit pericarp. This biogenesis is straightforward, amenable for big scale industrial production and technical applications. Further, the bleaching of malignant neoplastic disease material, Disperse Blue (DB1) in presence of ammonia was used as a model reaction to demonstrate the chemical applications of those Ag-NPs. The UV-visible spectrographic analysis results indicated that the bleaching of DB1 within the presence of ammonia and AgNp is increased and there's an interesting correlation within the reaction rate of bleaching/fading. This may be owing to the presence of surfactants on the Ag-NPs and the nitrogen atom of the donor ammonia molecule. Moreover, photoluminiscence studies are recommended that these particles apposite for visible light emitting probes. The Ag-NPs exhibited distinct fluorescence properties within the red light region that is supported by EEM spectra.

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FLOATING MICROBALLOONS OF METFORMIN FORMULATION, CHARACTERIZATION AND INVITRO EVALUATION

[Paper Id – PHAM1037]

A Paper Presented by: [1]Y.Prasanth, [2]K.Maneesha, [3]P.V.Phanindra, [4]M. Jahnavi
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ABSTRACT

The bioavailability of Metformin is improved by preparing the floating micro balloons which improve the gastric retention time of the drug. Emulsion solvent evaporation and emulsion solvent diffusion method are employed to prepare the micro balloons of HPMC 4KM with ethyl cellulose and eudragid S 100 respectively. The formulated micro balloons are evaluated for different parameters like the particle size, shape and morphology, percentage yield, percentage buoyancy, micrometric properties, incorporation efficiency, invitro dissolution study. FT-IR analysis showed that no interactions are present between metformin and the polymers used. F3, F6 formulations showed better results for all evaluation parameters. Micro balloons prepared with Eudragit S100 (F6) showed better release properties within 12hours than other polymers. Curve fitting of the dissolution data in different controlled release plots indicated that the drug release was through first order in case of the micro balloons prepared by HPMC 4KM and ethyl cellulose, while in case of the eudragit polymers the drug release followed the polymer chain erosion mechanism as it fitted well in the peppas model.

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NEEDLE FREE INJECTION TECHNOLOGY

[Paper Id – PHAM1038]

A Paper Presented by: [1]V. D. Revathi, [2]Ar. Suresh, [3]N. Ashritha
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ABSTRACT

Needle free injection technology (NFIt) is an extremely broad concept which include a wide range of drug delivery systems that drive a variety of drugs through the skin using any of the forces as Lorentz, Shock waves, pressure by gas or electrophoresis which propels the drug through the skin, virtually nullifying the use of a traditional hypodermic needle. Due to this an ultrafine stream of high pressure fluid is created, that penetrates the skin devoid of the use of a needle, thus faster administration of drug occurs as compared to conventional needles. The main advantages of NFIt include easy-to-use mechanism of the device and reusability. The take-home option that is provided, which would be especially useful for drugs such as insulin. In diseases like allergy or asthma, avoiding any delay in the treatment can potentially save lives. Patient's reactions like anxiety, avoidance, autonomic reaction, disgust, phobia linked to syringes are decreased. It removes improper drug delivery. This technology is highly useful in mass immunization programmers', bypassing the chances of needle stick injuries and avoiding other complications including those arising due to multiple use of single needle i.e., decrease the contamination issues caused by HIV, Hepatitis B & C viruses. Technically superior needle-free injection systems are able to administer highly viscous drug products which cannot be administered by traditional needle and syringe systems, further adding to the usefulness of the technology. NFIT devices can be manufactured in a variety of ways. Needle free injection technology is growing and has the potential to make the administration of medicine more efficient, safe, convenient and less expensive. In this review needle free injection technology regarding its Mechanism of action, stages of drug delivery, applications, advantages over needle injections, their components and types shall be discussed.

Keywords: Syringe systems, needle stick injuries, propel, sterility, Needle free injection technology, Lorentz, shock waves, electrophoresis, mass immunization.

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ANALYTICAL METHOD DEVELOPMENT AND VALIDATION OF BUPROPION AND RUFINAMIDE INDIVIDUALLY IN PURE AND TABLET DOSAGE FORM BY UV SPECTROSCOPIC METHOD

[Paper Id – PHAM1039]

A Paper Presented by: [1]V.Swetha, [2]A.Sai Kinnera, [3]S.Mythili Kiranmai, [4]G.Jyothi Sudha
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ABSTRACT

The objective of proposed method is to develop novel, safe and sensitive method of spectroscopic estimation in UV region has been developed for the assay of Bupropion hydrochloride and Rufinamide in its pure and tablet dosage formulations. The method have been developed and validated for the assay of Bupropion hydrochloride and Rufinamide using Water and Methanol as diluents respectively which does not, shows any interference in spectrophotometric estimations. The spectroscopic determination of Bupropion hydrochloride done at 252nm and the determination of Rufinamide is done at 268nm. All the parameters of the analysis were chosen according to ICH guideline and validated statistically using, Linearity Percentage Recovery, Accuracy, Precision, LOQ and LOD along with neat Spectrums. The experimental work reveals that all the validation parameters of the proposed methods were within the limitations. Hence it is concluded that the developed UV methods are found to be simple, precise, selective, reproducible, sensitive, cost effective and accurate for the analysis of Bupropion hydrochloride and Rufinamide in pure and tablet dosage forms.

Keywords: UV-Spectrophotometric, ICH, Bupropion hydrochloride, Rufinamide.

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A NEW METHOD FOR THE ASSAY OF METOPROLOL BY VISIBLE SPECTROPHOTOMETRY USING BRUCINE.

[Paper Id – CHEM1040]

A Paper Presented by: [1]V. Mallikarjuna Sarma, [2]B. Venkata Rao, [3]V. Sanjeev Kumar, [4]K. Venkata Rao, [5]Dr. E. S. R. S. Sarma

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ABSTRACT

A rapid and easy to perform method for the quantitative determination of Metoprolol titrate (MPT) in biological matrices would be useful in its therapeutic monitoring as well as in intoxication cases. MPT is a cardio selective β1 adrenergic receptor antagonist mainly used in hypertension, angina pectoris, cardiac arrhythmia, congestive heart failure, myocardial infarction, supraventricular tachycardia, ventricular tachycardia and prevention of migraine headaches. The study presents a validated method for the U.V.-VIS quantitative assay of MPT in bulk and tablet formulations at λmax of 530 nm. With molar absorptive of 1.65×10^3 L. $mole^{-1}$ cm^{-1}. The parameters targeted for the validation were: linearity, sensitivity, accuracy and precision.

The presence of secondary amine group in MPT molecule is the basis for the proposed visible spectrophotometric method. Brucine (2, 3- dimethoxy stricychnidin-10-one) has-been proved to be a valuable chromogenic reagent for the detection and determination of amino compounds. This method involves the reaction of Metoprolol with Brucine in the presence of IO_4^-. Periodate converts Brucine to bruciquinone,which in turn undergoes Nucleophillic attack by the most electron rich position of the coupler aliphatic primary or secondary amine to yield 1- mono substituted bruciquinone derivatives with an absorption maximum at 510-530 nm.The effect of various parameters such as nature and strengths of oxidant, sulphuric acid and Brucine solution, the order of addition of reagents, effects of solvents on colour development and the stability of the final coloured product were studied.

In the present investigation, the dimethoxy benzene nucleus is attacked by IO_4^- with the formation of O-Quinone (bruciquinone) which in turn undergoes Nucleophillic attack on the most electron-rich position of the coupler(imino group of MPT) to give 1- mono substituted bruciquinone derivative.Sodium metaperiodate is an effective oxidant for converting methyl substituted O- dihydroxy phenols to O-benzoquinones and also

functions as a color stabilizer The developed method is more selective, sensitive, reproducible, rapid, cheap and simple than in most of the analogous methods. For these reasons, it can be used in routine analysis and can be applied for the determination of MPT in pharmaceutical formulations and biological samples.

Keywords: Metoprolol tartrate, Brucine-periodate, visible spectrophotometry

NOVEL DRUG DELIVERY SYSTEMS: AN OVERVIEW

[Paper Id – PHAM1041]

A Paper Presented by: [1]T. Yogitha, [2]S. Sandhya Rani, [3]P. Prameela Durga.
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ABSTRACT

Evolution of an existing drug molecule from a conventional form to a novel delivery system can significantly improve its performance in terms of patient compliance, safety and efficacy. In the form of a Novel Drug Delivery System an existing drug molecule can get a new life. The main goal for developing such delivery systems is to minimize drug degradation, prevent harmful side effects and to increase bioavailability. Various drug carriers include soluble polymers, micro particles, synthetic polymers, microcapsules, cell ghosts, lipoproteins, liposomes and micelles. Two major mechanisms for addressing the targeted sites for drug release are Passive and Active targeting. Controlled drug carrier systems include micellar solutions, vesicles, liquid crystal dispersions as well as nanoparticle dispersions. Nanoparticles consist of small particles of size 10-400nm which shows a great promise as drug delivery systems Nanoparticles can be classified as nano tubes, nano wires, nano shells, quantum dots, nanopores. Hydro gels are three dimensional, hydrophilic, polymer networks capable of imbibing large amounts of water or biological fluids. Bucky balls, a novel delivery system with 60 carbon atoms formed in the shape of a hollow ball. There are other type's namely fuzzy balls, gadofullerenes and giant fullerenes. Researchers at north western university are using gold particles to develop ultra sensitive detection systems for DNA and protein markers associated with many forms of cancer including breast and prostate cancer. Drug loaded erythrocytes is one of the growing and potential systems for delivery of drugs and enzymes. The need for delivering drugs to patients efficiently and with fewer side effects has prompted pharmaceutical companies to engage in the development of Novel Drug Delivery System.

Keywords: Drug release, Dosage forms, Novel Drug Delivery System, Carriers, Colloidal drug carriers, Herbal formulations, Nanoparticles.

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OXIDATION OF VANILLIN BY BROMATE IN AQUEOUS ACETIC ACID MEDIUM: A KINETIC AND THERMODYNAMIC APPROACH

[Paper Id – CHEM1042]

A Paper Presented by: [1]T. Satish, [2]M. Parashuramudu, [3]P. Sunitha Manjari
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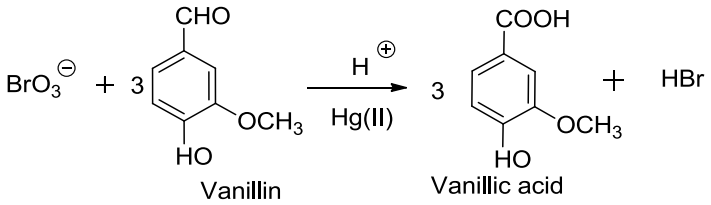
ABSTRACT

The kinetics and mechanism of the oxidation of vanillin by acid bromate (unmixed with Br_2) in aqueous acetic acid medium is studied. The reaction exhibits first order in [bromate] and fractional order in [vanillin], and [acid]. Variation of ionic strength had no effect on the reaction rate. The reaction rate has enhanced by lowering the dielectric constant of the reaction medium. The reaction has been carried out at four different temperatures and the activation and thermodynamic parameters were calculated. The mechanism proposed involves the decomposition of vanillin-bromate complex leading to vanillic acid.



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TRANSDERMAL DRUG DELIVERY SYSTEM BY ETHOSOMES

[Paper Id – PHAM1043]

A Paper Presented by: Swarnagrandhi
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ABSTRACT

Transdermal drug delivery system is one type of more convenient drug delivery system. Skin acts a barrier for transdermal through drug delivery system. Drug across through stratum corneum by low diffusion process. Drug formulation with elastic vesicle or skin enhances vesicles. Etho sources are the ethanolic phospholipids vesicles and which are having higher rate of penetration through the skin. The purpose of writing this Review on ethosome drug focus on the Twosomes including their mechanism of penetration. Transdermal drug delivery system was come into existence by more than 30 years ago. Ethosomes are the ethanolic phospholipid vesicles. These are used mainly for transdermal delivery of Drugs. Ethosomes have higher penetration rate through the skin as compared to liposomes hence these can be used widely in place of liposomes. Ethosomes enhanced skin permeation, improved drug Delivery, increased drug entrapment efficiency etc.

Keywords: Transdermal Drug Delivery System, Ethosomes, Drug Absorption

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NANO MATERIALS –IT'S APPLICATIONS IN THE PRESENT ERA

[Paper Id – CHEM1044]

A Paper Presented by: [1]B.Sujatha, [2]K.PrasadaRao
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ABSTRACT

Nano technology is one of the most rapidly advancing scientific technology today. Nano technology is a field of applied science focused on the design, synthesis, characterization application of materials and devices on the nano scale i.e. the study of nano materials is known as nano technology. So nano technology includes nano meter scales processing and the production of various components by controlling size and shape .A nano meter is one billionth of a meter. Generally the size is less than 100 nm, those production techniques can be consider as nano scale. There are two methods are used to produce nano materials one is called top down method and another is the bottom up method. In the first method, very small components are produced using larger parts of the material and in the bottom up method nano materials are produced by processing molecule by molecule or atom by atom.

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RECENT ADVANCES IN DRUG SCREENING

[Paper Id – PHAM1045]

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ABSTRACT

Drug screening involves a variety of assays at the molecular, cellular, organ system and organism level to define the pharmacologic profile, i.e., the activity and selectivity of the drug. The Drug is studied for a broad array of actions to determine the mechanism of action and selectivity of the drug which reveals both expected and unexpected toxic effects. At the molecular level the drug would be screened for activity and selectivity on target. It gives the evidence collected on duration of action and efficacy after different routes of administration. It would be helpful for detection of further possible adverse effects on major organs. These studies might suggest the need for further chemical modification to achieve more desirable pharmacokinetic and pharmacodynamic properties. This will be a useful assessment of tolerance development, physical and psychological potential of long term administration of drug. Drug screening includes in vitro studies, animal testing, clinical testing and marketing. In vitro studies involve identification of new compound through biological product/ chemical synthesis. Animal testing involves efficacy, selectivity and mechanism. Clinical testing consists of three phases pharmacokinetic and pharmacodynamic effects. Marketing involves post marketing surveillance. Recent steps in drug screening involve assay development, HITS, HIT assessment, lead development, lead optimization and file FDA.

Keywords: Lead, HITS, post marketing surveillance, pharmacodynamics, pharmacokinetics, physical and psychological potential (dependence), efficacy, drug tolerance.

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THE CONCEPT OF NANOEMULSION: NOVEL TARGET DRUG DELIVERY SYSTEM

[Paper Id – PHAM1046]

A Paper Presented by: [1]R.Maheswari, [2]B. Divya, [3]P. Tanuja
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ABSTRACT

In conventional method of drug delivery system, the major drawback is the medication which is distributed throughout the body, reaches the affected site in decreased amount. To overcome this downfall, the targeted drug delivery system associated with nanomedicine, plans to employ nanoparticle medicated drug delivery for prolong, localized and protective drug interactions with diseased tissue. This review is about the introduction of the novel drug delivery system, Nano-emulsion. Nano-emulsion is a nano sized emulsion, which is manufactured for improving the delivery of the active pharmaceutical in target - controlled drug delivery. These are thermodynamically stable isotopic system in which two immiscible liquid (water and oil) are mixed to form a single phase by the means of appropriate surfactants and co-surfactant molecules having a droplet size less than 100nm. Nano-emulsion droplets size falls typically in range of 20-200nm. Diameter and surface properties of nano-emulsion plays a vital role in biological behavior of formulations. The major difference between emulsion and nano emulsion lies in the shape and size of the particles dispersed in the continuous phase. The small droplet size, high kinetic stability and optical transparency of nano-emulsion provided future support for cosmetics, diagnostics, biotechnology etc. In this review brief introduction to nano-emulsion, its preparation techniques, characterization, evaluation, stability factors and applications shall be discussed.

Keywords: Nanoparticle, nanomedicine, drug interactions, targeted drug delivery, target - controlled drug delivery.

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MUCOADHESIVE DRUG DELIVERY SYSTEMS

[Paper Id – PHAM1047]

A Paper Presented by: [1]S. L. Alekhya, [2]N. Vineela, [3]P. Maneesha Lakshmi
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ABSTRACT

Mucoadhesion is commonly defined as the adhesion between two materials, at least one of which is a mucosal surface. Mucoadhesive drug delivery systems interact with the mucus layer covering the mucosal epithelial surface and mucin molecules and increases the residence time of dosage form at the site of action. The drugs which have maximum absorption in gastrointestinal tract require increased duration of stay in GIT. Mucoadhesion is currently explained by six theories: electronic, adsorption, wettability, diffusion, fracture and mechanical. Application of dosage forms to mucosal surfaces may be of benefit to drug molecules not amenable to the oral route, such as those that undergo acid degradation. The mucoadhesive ability of a dosage form is dependent upon a variety of factors, including the nature of the mucosal tissue and the physicochemical properties of the polymeric formulation. Mucoadhesive drug delivery systems offer close contact with the mucous membrane, absorption tissue, releasing the drug at the site of action leading to an increase in bioavailability and greater local and systemic effects. The aim of study is to review the theories and mechanisms of mucoadhesion, factors affecting mucoadhesion, mucoadhesive materials, and finally various mucoadhesive drug delivery systems.

Keywords: Mucoadhesion, Bioadhesion, Mucoadhesive Polymers, Mucoadhesive Drug Delivery Systems.

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MECHANISTIC INVESTIGATIONS IN THE OXIDATION OF VANILLIN BY N-BROMOSUCCINIMIDE

[Paper Id – CHEM1048]

A Paper Presented by: [1]P. Kalyani, [2]P. Sunitha Manjari
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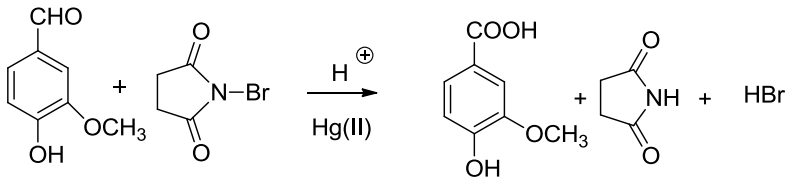
ABSTRACT

The kinetics and mechanism of oxidation of vanillin by N- Bromosuccimide was studied in aqueous acetic medium. The reaction exhibited a first order dependence with respect to N-Bromosuccinimide and fractional order with respect to Vanillin and inverse fractional order with respect to acid. Varying the ionic strength and has no significant effect on the oxidation rate. The final oxidation product of the Vanillin was identified by both spectral and chemical analysis as vanillic acid. The rate law explaining all the kinetic results has been evaluated. The activation parameters and thermodynamic quantities have been evaluated and discussed. Based on the kinetic results plausible mechanism has been proposed.



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PHYSICO-CHEMICAL ANALYSIS & GIS-APPROACH FOR MAPPING OF GROUND WATER QUALITY-A CASE STUDY

[Paper Id – CHEM1049]

A Paper Presented by: [1]K. Nirmalajyothi, [2]D. Ramachandran
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ABSTRACT

The state of Andhra Pradesh, India falls in water stress area. The primary objective of this study is to examine the special distribution of different chemical elements with respect to its contamination level of ground water quality in Anacapalle rural mandal Andhra Pradesh, India. This has been determined by collecting 270 water samples in 3 seasons (summer monsoon and winter) per period of the year 2013 and subjecting the samples to a comprehensive Physic-Chemical. The aim of the study is to present the data in GIS (kriging method) environment for better understanding the spatial distribution of each chemical parameter and mapping of the current situation of ground water quality of Anakapalle rural mandal more than 20 chemical parameters of groundwater are selected and compared to the guidelines values presented by world health organization (WHO). The water quality index was developed in order to present the overall water quality of the study area the chemical SAR, RSC, and KI, %, Na, PI and MR were calculated. The results indicated that PI and MR values revealed more than 50% ground water samples quality is very poor for drinking as well as irrigation practices also.

Keyword: GIS, Groundwater quality parameter, Ordinary kriging, Ground water quality index.

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WOMEN ENTREPRENEURSHIP: RENEWABLE ENERGY REVOLUTION

[Paper Id – TECH1050]

A Paper Presented by: Dr. (Smt). B.V.L.A. Manga
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ABSTRACT

Today India has made remarkable economic progress in many spheres. Solar energy is one such area which has tremendous potential contributing positively to meet the energy needs of people to provide safe convenient, affordable, equitable and sustainable manner. For sustainable development, our country has to accelerate its economic growth more actively and effectively by investing in rural women which enables them to turn as successful entrepreneurs by starting micro-entrepreneurs. In rural India, the main occupation of women is based on horti-agricultural operations. Women entrepreneurship is like a discipline for achieving that begin at home. In this paper an attempt is made to involve more women in the form of SHGs to become entrepreneurs in the solar innovative food processing technologies. Women have been entrepreneur in different ways. They have to find a balance economically and financially both at the home front and career. At present SHGs are functioning proactively, penetrating into every area. Here Innovative Solar Food Processing Technology is also a good occupation that fetches attractive returns to women Self Help Groups. It also provides proper solutions for income generation and employment. Thus it provides sustainable livelihood to women through the introduction of solar food processing technology at the micro level through entrepreneurial skills. This paper throws a light on the salient features of solar cabinet dryers and their application in the dehydration process accomplished with zero energy cost unlike the electrical dryers. It examines the role of women micro enterprises in food processing to produce eco-friendly green energy vegetable products and the need for capability building strategies. These starting micro-enterprises empowers women creates job opportunities and generates higher income. It builds social cohesion among women creates an enabling environment to develop linkages and partnership with in the wider society. Thus through social capital, poor women's untapped potential can be utilized beyond traditional business practices and make them partners in growth and wealth creation.

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ACACIA AS A NATURAL FOOD PRESERVATIVE

[Paper Id – PHAM1051]

A Paper Presented by [1]M.V.V.S. Srija, [2]B. Sai Prasanna, [3]G. Hema Sri.
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ABSTRACT

Acacia, belonging to the subfamily Mimosoideae of the pea family Fabaceae, is an Ethan botanical plant indigenously known as 'Babul', 'thumma', 'Kasinda'. It is a medium sized tree and is broadly scattered in tropical and subtropical countries. Nearly 1380 species of Acacia are present worldwide. Almost all its parts such as leaves, bark, root, flower, pods, gum, etc. are used in medication. It is a valuable source of proteins, tannins, gums, perfumes and flavoring phytochemicals. These phytochemicals have been reported to be effective against a variety of disease including diabetes, skin disease and most concerning with cancer. The fresh plants parts of Acacia are considered as astringent, demulcent, aphrodisiac, anthelmintic, antimicrobial, antidiarrhoeal, with good nutritional value in Indian traditional medicine system. Because of its antimicrobial property, Gum acacia coating with garlic and cinnamon are used as an alternate, natural preservative for meat and fish. Food preservatives are used to prevent food spoilage i.e., inhibit the growth of food spoilage and food poisoning bacteria. Various strategies involved in preservation are alternation in pH, temperature, water, O_2 (Physical), using BHT, BHA, Nitrates, SO_2 (Chemical) and plant products such as clove, cinnamon (Biological). As chemical preservative are hazardous. People are avoiding synthetic preservative and approaching a natural product which increases the shelf-life of food. Now the most current trend setting activity is that Acacia extracts can alone be used as a food preservative.

Keywords: Food spoilage, food poisoning, food preservative, antibacterial, antifungal and antiviral activities

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ROLE OF THIOL CAPPED SILVER NANOPARTICLES DISPERSED IN LIQUID CRYSTALS- OPTICAL STUDIES

[Paper Id – PHY1052]

A Paper Presented by: [1]K. Sivaram, [2]M.C. Rao, [3]P. Pardha Saradhi, [4]M. Tejaswi [5]R.K.N.R. Manepalli

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ABSTRACT

Synthesis and characterization of Liquid Crystalline p-n-decyloxy benzoic acid (10OBA) compound with thiol capped Ag nanoparticles dispersion was carried out by chemical reduction method. The Polarizing Microscopy (POM), Differential Scanning Calorimetry (DSC) techniques are used to measure the phase transition temperatures along with the enthalpy values. Spectroscopic techniques like X-ray Diffraction spectrometric studies (XRD), Scanning Electron Microscopic studies (SEM), Ultra-Violet Visible (UV-Vis) spectroscopy, Fourier Transform Infra Red Spectroscopy (FTIR) were also carried out on to the samples. Textural determinations of the synthesized compounds are recorded by using POM connected with a hot stage and camera. The results showed that the dispersion of thiol-capped Ag nanoparticles in 10OBA exhibited NC phases as that of the pure 10OBA with reduced clearing temperature as expected. The order parameter is estimated from birefringence anisotropy data without considering any internal field model to liquid crystal molecule and with dispersed thiol - capped Ag nanoparticles. It is found that the orientational order parameter of 10OBA increased with dispersed 1 wt% thiol-capped Ag nanoparticles.

Keywords: Synthesis, POM, DSC, Nanodispersion, XRD, SEM, UV spectroscopy, FTIR, Birefringence and Order parameter.

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Date: 24th & 25th January 2017

GAMMA-RAY INTERACTION STUDIES IN PHOSPHATE AND NON-PHOSPHATE GLASSES

[Paper Id – PHY1053]

A Paper Presented by: [1]K. Jyothi , [2]K. Nanda Gopal, [3]A.S. Nageswara Rao, [4]U.V.B.B.K. Prasad, [5]K. Jayadev
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ABSTRACT

Phosphate and Non-phosphate glasses have been prepared by Melt quenching method. Gamma-ray mass attenuation coefficients for these glasses have been measured by using Narrow Beam Transmission Method with NaI(Tl) as detector. I, Io and d (g/cm^2) were measured and using exponential law of attenuation, the mass attenuation coefficients for each type of glass at discrete gamma energies ie., 59.5 and 661.6 keV were calculated. The effective atomic numbers for photoelectric and coherent attenuation processes were also calculated for these glasses. Using mixture rule, μ/ρ values were calculated and were compared with the obtained experimental values. These both in turn were compared with theoretical values calculated using NIST XCom database. The theoretical values, calculated values and experimental results of the present work were found to be in good agreement.

Keywords: Gamma-ray, Mass attenuation coefficients, Narrow beam transmission, Effective atomic number.

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DETERMINATION OF TRIMETAZIDINE DIHYDROCHLORIDE BY USING OXIDATION FOLLOWED BY COMPLEXATION METHOD

[Paper Id – PHAM1054]

A Paper Presented by: [1]I.Sri Bindu Sahitya, [2]K.Esther Supriya,[3]G.Jyothsna, [4]N.Divya Teja

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ABSTRACT

A simple, economic, accurate chemicaldervitization method was developed for the trimetazidine dihydrochloride in bulk and pharmaceutical dosage form. Ferric (III) chloride ($FeCl_3$) reagent and Potassium ferrocyanide was used for the chemical derivitization. The maximum absorption was observed at 400nm. The linearity range was found to be 5-25µg/ml. The proposed method was validated. The reports was expressed that the proposed methods was found to be simple, precise, accurate and rapid for determination of trimetazidine dihydrochloride from dosage forms.

Keywords: Trimetazidine dihydrochloride,Oxidation, complexation method, UV spectroscopic method.

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ENVIRONMENTAL DISCOURSE AND SUSTAINABLE DEVELOPMENT

[Paper Id – CHEM1055]

A Paper Presented by: [1]Dr.P.Hariram Prasad, [2]T.Varaprasad
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ABSTRACT

In the development field, one of the major shortcomings of mainstream development theories and models is their relative indifference toward environmental concerns. However, the worsening environmental catastrophes and the growing environmental consciousness led to the emergence of a new model of development known as "sustainable development." The proponents of sustainable development tend to explore the environmental costs of development activities, prescribe environment-friendly policies, suggest institutional and legal measures for environmental protection, and publicize the principles of sustainability through international forums and publications. Despite this recognition of environment-development relationship, the model of sustainable development suffers from certain serious shortcomings that need to be addressed. This article begins with a brief discussion on various forms of environmental challenges to development, followed by an analysis of how the model of sustainable development articulates the environment-development linkages in both practical and intellectual terms. The final section of the paper critically examines the major limitations of the model in dealing with the environmental question, and makes some suggestions in this regard.

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SYNTHESIS OF 2-AMINO -4-(2'- NITRO) PHENYL-6(2", 2"-DIMETHYL- 7"- HYDROXY CHROMAN) PYRIMIDINE

[Paper Id – CHEM1056]

A Paper Presented by: [1]Christopher .V, [2]Venkateswara Rao. B
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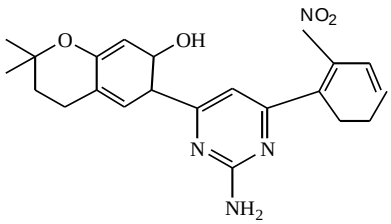
ABSTRACT

In view of the importance of heterocyclic compounds in various fields of science, it was proposed to synthesize a new fused heterocyclic system i.e., Pyrimidine incorporating chroman moiety in it. In the first step resacetophenone on nuclear prenylation with isoprene in the presence of polyphosphoric acid(PPA) at room temperature resulted in the formation of 2,2-dimethyl-6-acetyl-7-hydroxy chroman(Chroman). The obtained chroman on condensation with 2- nitrobenzaldehyde in the presence of 30% alcoholic alkali at room temperature resulted in the formation of 7-hydroxy-6-(2'-nitro) cinnamoyl, 3,4 -dihydro 2,2-dimethyl-2H benzo (1,2b) pyran)(chalcone) in good yield (85%). Condensation of the above chalcone with guanidine hydrochloride in alkaline medium viz., potassium tertiary butoxide in presence of t- butanol at reflux temperatures resulted in the formation of target molecule i.e., 2 – amino – 4 - (2' – nitro) phenyl – 6 (2", 2" – dimethyl, 7" – hydroxy chroman) pyrimidine. This procedure has been adopted to synthesis a number of Pyrimidine derivatives which has number of biological and photo-physical applications. The present newly synthesized pyrimidine molecule i.e., 2 – amino – 4 - (2' – nitro) phenyl – 6 (2", 2" – dimethyl, 7" – hydroxy chroman) pyrimidine is investigated for its photophysical properties and it exhibited promising results.



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PLATLET RICH PLASMA: TREATMENT OF KNEE OSTEOARTHRITIS

[Paper Id - PHAM1057]

A Paper Presented by: [1]Ch. Sucharitha, [2]R. Manasa Surya, [3]J. A. Meghana.
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ABSTRACT

Osteoarthritis is a joint disease which effect cartilage. In this top layer of cartilage breaks and cause pain and swelling due to rubbing of bones, especially in knee joint (Femur & Tibia) surface damage and joint lose shape, bone spurs may grow on edges of joint. Bits of bone or cartilage can break off and float inside joint space, a crunching feeling or the rubbing bone sound causes pain and damage. Doctors use several methods like x-rays and medical history for diagnosis and Anti inflammatory pills (Pharmacologically); corticosteroids (Procedurally) and Arthoscopy (Surgically) for treatment in olden days. PLATELET RICH PLASMA (PRP) plays a key role in process of wound healing. Patients own blood, usually removed from bone marrow and adipose tissue having high platelet concentration is collected, centrifuged and injected so as it stimulates musculo skeletal healing, which repair damaged tissues naturally triggering localized inflammation, collagen production and other regenerative process through bioactive proteins found in WBC. Side effects are minimum as patients own blood sample is used. PRP works by supplying injured areas with natural proteins, cytokines, stem cells and other bioactive growth factors. In 1990's PRP is used only for dental treatments, periodontal surgeries and skin grafting treatment. Now in 2000's it is used for common hand injuries, injuries due to sports, chronic pain, stem cell treatment, hair loss treatments. 3 plasma proteins viz., fibrin, fibronectin and vitronectin also contribute body's repair matrix. PRP can be given to different sex, age, BMI patients and results are stable at the end of therapy and after 6 months follow up. The preliminary results indicate treatment with PRP is safe and has the potential to reduce pain and improve knee function and increase the quality of life in patients with low degree of Articular degeneration. After this treatment mild exercises are recommended and movement of the knee is observed.PRP is a novel option in knee Osteoarthritis management which reduces pain and improves knee function and increase the quality of life with short term efficacy. It is simple, low cost, minimally invasive method that provides blood growth factors. PRP can shorten recovery time, enhance tendon strength. Many clinical studies show positive results and promissory results.

Keywords: Platelet rich plasma, osteoarthritis, knee osteoarthritis

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A FACILE AND EFFICIENT SYNTHESIS OF NOVEL HYBRID MOLECULES OF CHROMONE-ISOXAZOLE DERIVATIVES

[Paper Id - ENGG1058]

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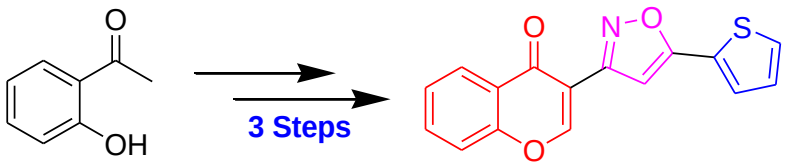
ABSTRACT

An efficient method for the preparation of novel 3-(5-(thiophen-2-yl) isoxazol-3-yl)-4H-chromen-4-one hybrids via 1, 3 di polar cyclo addition has been reported. Using this method various arylas well as alkyl substituted isooxazole-chromonehybrids were synthesized in high yield.

The search for new anti tumor agents having less toxicity and more cytotoxocity potency is the major interest in the present day research. The chromone and Isooxazole derivatives are most important oxygen containing hetero cyclic compounds, which show variety of pharmacological properties. They have been widely used for theiranti-cancer and anti-bacterial activities. Flavones and chromone are an important class of compounds belonging to the flavonoid group that occur naturally in fruits, vegetables, nuts, seeds, flowers, and barks [1–3]. Iso oxazole derivatives shows hypo glycemic, analgesic, anti-inflammatory, anti-fungal, anti bacterial, HIV inhibitory activity[4]. Synthesis of hybrid natural products have gained momentum in recent years. It is expected that combining more than one moiety enhances pharmacological activity while retaining high diversity and biological relevance.

Key words: Flavones, Chromones, Iso oxazoles, Cyclo addition.



Scheme 1. Preparation of chromone-isoxazole derivatives

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AWARENESS AND PREVALENCE OF ANEMIA AMONG WOMEN POPULATION

[Paper Id – PHAM1059]

A Paper Presented by: [1]Venna R Surya Anusha, [2]Koppala RVS Chaitanya.
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ABSTRACT

Introduction: Anemia is the major health problem throughout the world. The descriptive study was conducted to assess the awareness and prevalence among women population of Punjab

Materials and methods: Questionnaire based survey has been conducted in various place of Punjab nearly 400 women respondents participated and their responses are recorded through prevalidated questionnaire targets groups includes are student, employees and house wife women from different areas of Punjab such as rural, urban and suburban areas.

Results: The awareness of anemia was found to be excellent in 1.75%, very good in 26.75%, moderate in 49.8% and poor in 22.5% among women population. The prevalence of anemia was found to be mild in 45.8%, moderate in 35.5% and severe in 6.0 % population.

Discussion: The prevalence of anemia was found to be more in vegetarian respondents than non-vegetarian. The age group between 21-40 years was found to more prevalent to anemia as compare to other age groups. The respondents have family history of anemia, or other disorders like diabetes, thyroid was found to prevalent to anemia.

Conclusion: It has been found that anemia has strong relation with residence (urban/rural), literacy level, social status, monthly income and dietary habits.

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DRUG – DRUG INTERACTIONS BETWEEN SERRATIOPEPTIDASE AND GLICLAZIDE IN ANIMAL MODELS

[Paper Id – PHAM1060]

A Paper Presented by: K. Daniel Raju
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ABSTRACT

The present study is planned to evaluate the safety of gliclazide (antidiabetic) therapy in the presence of serratiopeptidase (anti-inflammatory, antiedemic, fibrinolytic) in rats and rabbits. Studies in normal and alloxan-induced diabetic rats were conducted with oral doses of gliclazide, serratiopeptidase and their combination. Similarly, studies in normal rabbits were conducted with oral doses of gliclazide, serratiopeptidase and their combination with adequate washout periods in between the treatments. Blood samples were collected from rats and rabbits at different time intervals and were analyzed for blood serum gliclazide levels. Gliclazide produced hypoglycaemic / antihyperglycaemic activity in normal and diabetic rats with peak activity after 1hr and 6hrs and hypoglycaemic activity in normal rabbits with peak activity after 3hrs. Serratiopeptidase alone produced minor reduction in blood glucose levels in normal rats / diabetic rats / normal rabbits. Serratiopeptidase did not alter the hypoglycaemic effect of gliclazide in normal / diabetic rats and in normal rabbits when administered together. The serum insulin levels were not increased with serratiopeptidase treatment in normal rabbits. The serum gliclazide levels and pharmacokinetic parameters of gliclazide were altered insignificantly in presence of serratiopeptidase in normal rabbits. No pharmacodynamic / pharmacokinetic interactions were observed. As no pharmacodynamic / pharmacokinetic interaction was observed in two dissimilar species (rats, rabbits) the combination might be safe in humans also.

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DRUG INDUCED HEPATOTOXICITY

[Paper Id – PHAM1061]

A Paper Presented by: [1]K. Sridevi, [2]G. Suryavati, [3]K. Jyothi
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ABSTRACT

Liver is the largest organ in the body is being evolved to maintain the body's internal milieu and also protect itself from the challenges it faces during its functioning. It is a vital organ having diverse functions. It plays an important role not only in metabolism, synthesis, storage and also in the detoxification of many endogenous and exogenous compounds. In the past five years, two drugs have been withdrawn from the market by the Food and Drug Administration (FDA) for causing severe liver injury, a potential danger that had not been fully recognized in the course of the pre approval clinical trials. Drug-induced hepatic injury is the most frequent reason cited for the withdrawal from the market of an approved drug, and it also accounts for more than 50 percent of the cases of acute liver failure in the United States today. More than 75 percent of cases of idiosyncratic drug reactions result in liver transplantation. Recent efforts by the National Institutes of Health and the FDA have been directed toward a better understanding of these occurrences in order to improve the outcomes. Drugs are an important cause of liver injury. More than 900 drugs, toxins, and herbs have been reported to cause liver injury. Various types of drug induced liver diseases are acute-dose dependent liver damage, acute fatty infiltration, cholestatic jaundice, liver granulomas, active chronic hepatitis, liver cirrhosis, liver tumors etc. In the United States, approximately 2000 cases of acute liver failure occur annually and drugs account for over 50% of them (37% are due to acetaminophen, 13% are idiosyncratic reactions due to other medications). Drugs account for 25% of cases of patients hospitalized with jaundice and approximately 10% of all cases of acute hepatitis. Chronic liver disease and cirrhosis account for some 2% of mean in 17 countries with nearly 40,000 deaths per year. Considering the importance of drug-induced hepatotoxicity as a major cause of liver damage, this review throws light on various drugs which induce hepatotoxicity, with their mechanism of liver damage and clinical scenario, the common adverse drug reactions that involve the liver.

Keywords: Liver, hepatotoxicity, drug, mechanism.

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FORMULATION AND EVALUATION OF LANSOPRAZOLE MICROSPHERES FOR ORAL DRUG DELIVERY

[Paper Id – PHAM1062]

A Paper Presented by: [1]Kornu Manjulatha, [2]Burre Bindu Maheswari, [3]Prasanna.R
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ABSTRACT

Present investigation describes preparation of microspheres using sodium alginate and HPMC as polymers by solvent evaporation followed by characterization of microspheres to evaluate the physical properties and drug release profile. The microspheres were found to be discrete, spherical with free flowing properties. The morphology (Scanning Electron Microscopy), particle size distribution, entrapment efficiency and their drug release profiles were investigated. The results for all six formulations found to be within the range. *In vitro* drug release rate for microsphere was found to be sustained over 12 hours. Hence, it can be concluded that the Formulation (F6) prepared by solvent evaporation method, has potential to deliver Lansoprazole in a controlled manner in a regular fashion over extended period of time and can be adopted for a successful oral delivery of Lansoprazole for safe management.

Keywords: Lansoprazole microspheres, sodium alginate, HPMC, Solvent Evoparation method.

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FORMULATION AND EVALUATION OF ORAL DISINTEGRATING TABLETS OF DEXIBUPROFEN

[Paper Id – PHAM1063]

A Paper Presented by: [1]P.Veera Lakshmi, [2]K.Hymavathi, [3]G.Ramanjaneya Reddy
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ABSTRACT

Orally disintegrating tablets (ODTs), also known as fast melts quick melts, fast disintegrants and orodispersible systems have the unique property of disintegrating in the mouth in seconds without chewing and the need of water and are thus assumed to improve patient compliance. Dexibuprofen is an non-steroidal anti-inflammatory drug (NSAID), a propionic acid derivative with analgesic and antipyretic properties which belongs to BCS Class-II. The present study was aimed to formulate orodispersible tablets of Dexibuprofen to enhance its bioavailability. Orodispersible tablets were prepared by direct compression technique using three different super-disintegration namely crosscarmellose sodium, crospovidone, sodium starch glycollate Different combined approaches were proposed and evaluated to optimize tablet characteristics. Twelve formulations of fast dissolving tablets of Dexibuprofen were successfully prepared using sodium starch glycollate, croscarmellose and crospovidone by direct compression method. The prepared powder mixtures were subjected to both pre and post compression evaluation parameters including; micromeritics properties, tablet hardness, friability, wetting time, disintegration time and in-vitro drug release and stability studies. The results of micromeritics studies revealed that all formulations were having good flowability. Tablet hardness and friability indicated good mechanical strength. . Based on the results, formulation containing 8% Sodium starch glycollate (F12) was identified as ideal and better formulation. The in vitro dissolution of optimized formulation F12 was found to be 98.86% within 6 min. The optimized formulation was subject to stability studies for 1 month by storing them at 40C/75%RH. Results of physical appearance, hardness, friability, disintegration test, and % drug release shown that there was no significant change at storage condition. They were within stability protocol as per the ICH guide lines. Thus, Dexibuprofen oro-dispersible tablets were successfully developed

Keywords: Orally Disintegrating Tablet, Dexibuprofen, sodium starch glycollate, croscarmellose and crospovidone.

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FORMULATION AND EVALUATION OF OSELTAMIVIR PHOSPHATE SUSPENSION

[Paper Id – PHAM1064]

A Paper Presented by: [1]M.Varalakshmi, [2]K. Anjani, [3]R. Mounika.
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ABSTRACT

Oseltamivir phosphate is an antiviral drug used in the treatment and prophylaxis of both influenza A and influenza B. The objective of this study was to develop a stable formulation of oseltamivir phosphate powder for oral suspension. In prefomulation studies, drug-excipient compatability studies, DSC and FTIR studies were conducted to select the most appropriate excipients and the results revealed that there was no interaction between drug and excipients. Based on preliminary studies, various formulation trials (F1-F8) were carried out with different concentrations of excipients and methods such as dry granulation, roller compaction and wet granulation. Among all formulations, F8 formulation showed satisfactory results with physicochemical evaluation parameters like sedimentation rate, pH, water content, dissolution profile and assay. Hence, it was concluded that the formulation F8 was finalized as the optimized formula. On calculation of similarity and dissimilarity factors the optimized formula F8 was pharmaceutically equivalent to with that of innovator product (Tamiflu PFOS 6 mg/mL) and acceletated stability studies were conducted as per ICH guidelines, the suspension was found to be stable.

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LYOPHILIZATION: A NOVEL DRUG DELIVERY SYSTEM

[Paper Id – PHAM1065]

A Paper Presented by: [1]M.Varalakshmi, [2]K. Satya,[3] K. Pavani.
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ABSTRACT

On 21st century, in pharmaceutical field lyophilization has become important subject to ongoing development and its expansion. Lyophilization is common, but cost intensive. This review focused on the recent advances and its targets in near future. At first, the principle, steps involved, formulation aspects and importance of lyophilization was explained. Development and optimization of Lyophilization cycle or freeze drying cycle is a trial and error method. This technology is a complex operation used to prepare stable pharmaceutical and biopharmaceutical products through freeze-drying. During lyophilization, the water fraction of the product is reduced to approximately 3% by weight through a combination of sublimation (the primary drying process) and desorption (secondary drying process). Lyophilization equipment consists of a drying chamber, condensers (water and drying), a cooling system, and a vacuum system. Lyophilization has undergone several waves of refinement, resulting in a versatile, more clearly understood process. At the core of this evolution, and perhaps driving future enhancements, is a greater appreciation for chemical, physical, and thermal aspects of the process.

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QUALITY EVALUATION OF SOILS IN CORINGA MANGROVES REGION IN EAST GODAVARI DISTRICT FOR APPLICATION

[Paper Id – CHEM1066]

A Paper Presented by: [1]B.Vijaya Kumari, [2]L.N.Murthy, [3]P.V.S.Machiraju
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[2]Department of Organic Chemistry, Andhra University, Visakhapatnam.
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ABSTRACT

Soil with quality can produce healthy crops over a long term. Soil quality is an indicator of its fitness for use. Man made activities can change the quality of soil. In the present research study, six representative soil samples collected during pre and post monsoon season from Coringa mangrove region of East Godavari estuaries were characterised for physicochemical characters pH, EC, TDS, TH, TA, Cl^-, SO_4^{2-}, NO_3^-, PO_4^{3-}, Na^+, K^+, Ca^{2+} and Mg^{2+} and irrigation parameters like %Na, SAR, RSC, KR and MH were determined. In majority soils EC, TDS, TH and TA are on the higher side of permissible limits indicating the saline nature of the soils and the presence of solids in soils. pH values indicate the slight alkaline nature of soil, Total Alkalinity values also indicate the alkaline nature of soils. Higher Chloride values in one sample also indicate the saline nature of soil. Nitrate and Phospate levels also indicate the occational discharge of agricultural runoff into the soil. Higher values of Magnesium indicate the Magnesium Hazard of soil. Irrigation parameters like SAR, KR indicated the suitability of soil for irrigation while higher levels of Magnesium Hazard can deplete the soil quality in consequently. The productions of crop yields in the study area reduce. Hence the soils are to be reclaimed accordingly to reduce the chemical contamination and Magnesium Hazard to attain good crop yields in the study area.

KEYWORDS: Soil, Estuaries, Characterisation, Irrigation,

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EFFECT OF SURFACTANTS ON BINARY COMPLEXES OF L-ASPARTIC ACID WITH FEW BIVALENT METAL IONS

[Paper Id – CHEM1067]

A Paper Presented by: [1]V. Sambasiva Rao, [2]G. Nageswara Rao
[1]Inorganic and Analytical Chemistry Research Laboratories, School of Chemistry, Andhra University, Visakhapatnam.
[2]Chemistry Research Laboratories, Govt. College (A), Rajahmundry.

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ABSTRACT

Chemical Speciation of Binary Complexes of L-Aspartic acid with Co(II), Ni(II), Cu(II) and Zn(II) was investigated pH metrically in varying concentrations (0-2.5% w/v) of the neutral surfactant (TX-100)–water mixtures at an ionic strength of 0.16 mole dm^{-3} ($NaNO_3$) and temperature 303 K. The predominant complexes detected for these metal ions are ML, MLH, ML_2H, ML_2H_2 and ML_2. The trend in the variation of stability constants of the complexes with changing dielectric constant as well as composition of the medium was explained on the basis of electrostatic and non-electrostatic forces.

Keywords: Binary complexes, chemical speciation, stability constants, L-Aspartic acid, Triton X-100, MINIQUAD75

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EFFECTS OF WATER EXTRACT OF INDUSTRIAL SOLIDWASTE ON SEED GERMINATION TIME AND SEED VIABILITY OF SOLANUM MELONGENA L.

[Paper Id – ENGG1068]

A Paper Presented by: [1]Srinivas J., [2]Purushotham A.V.,
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ABSTRACT

The Industrial solid waste samples were collected at the outlet of release channel from the industry. The air-dried and was brought to the laboratory. The seeds were cultured in petri dishes, using graded concentrations of 5 %, 10 %, 30 % and 50 % V/V of ISW of water extract. The percentage of seed germination has decreased from WE_1 to WE_4 in the Brinjal. The Seed germination was 52.81% at WE_4 concentration for Solanum melongena L. (Brinjal plant). The seeds of Solanum melongena L. (Brinjal) started germinating from the third day in all the test concentrations, including the Control. In the test concentrations from C to WE_2, maximum germination was recorded during the third day. In case of WE_3 and WE_4, the maximum germination has occurred during the fourth day. The data provides scientific evidence that the viability of the Germinating seeds has declined from WE_1 to WE_4.The results of this study stress the need for environmental awareness, adequate regulations and proper management of waste sites by the local municipal authorities.

Keywords: Andhra Pradesh, East Godavari, Industrial solid waste, Seed Germination, Seed Viability and Water Extract.

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Date: 24th & 25th January 2017

EFFECTS OF INDUSTRIAL SOLID WASTE ON CROP AND YIELD OF *SOLANUM MELONGENA* L. (BRINJAL)

[Paper Id – ENGG1069]

A Paper Presented by: Srinivas J.[1], Purushotham A.V.[2], Murali Krishna K.V.S.G.[3]
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ABSTRACT

The present study deals with the "**Effects of Industrial Solid Waste on Crop and Yield Characters of Solanum melongena L. (Brinjal)"**plant Species were investigated in the pot experiment. Due to the Industrial solid waste contamination of soils 5%, 10%, 30% and 50% concentrations of all the brinjal crop and yield characters are effected and declined. The fruit yield of Solanum melongena L. reduced by 3.77% over the control soils in A_1 soils. Thereafter the rate of reduction steeply rose to 40.31% in A_2, 49.70% in A3and finally reached 70.54% in A_4 soils. Thus, the ISW even at 10% concentration has potential to reduce the fruit yield and result in considerable economic loss to the farmers. The economic loss affected by the amendment of soils with ISW ranged in A_1 soils is **Rs.1,45,600 /-** per hectare per year in A_4 soils. Even 10% contamination of soil with ISW, which is most likely to exist in the study area, may result in a loss of **Rs.83,200/-** per hectare per year through the Brinjal production.

Keywords: Crop,Industrial Solid waste, Kakinada, Solanum melongena L. and Yield

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CHARACTERIZATION OF SCHIFF BASE LIQUID CRYSTALLINE COMPOUNDS WITH DISPERSED CITRATE CAPPED GOLD NANOPARTICLES

[Paper Id – PHY1070]

A Paper Presented by: [1]R.K.N.R. Manepalli, [2]M.Tejaswi, [4]M.C.Rao, [5]G.Giridhar
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ABSTRACT

The characterizations of Schiff base Liquid Crystalline compound N-(*p*-*n*-hexyloxy benzylidene)-*p*-*n*-octylkoxy anilines (6O.O8) and with dispersed 20µl citrate capped Gold (Au) nanoparticles done to observe the changes occurred with the dispersion of nanoparticles in Liquid Crystalline compounds. Liquid Crystalline phases are not disturbed with the dispersion of nanoparticles whereas more advantageous in various applications. The transition temperatures and textures are obtained by using Polarising Microscope(POM) and along with transition temperatures, enthalpy values are obtained from Differential Scanning Calorimetry (DSC). Further Scanning Electron Microscope (SEM) is used to determine the presence and size of the citrae capped Au nanoparticle. Image processing technique of textural analysis is also used to identify the statistical parameters of the images and their transition temperatures are identified.

Keywords: Liquid Crystal, POM, DSC, Nano-dispersion, SEM and Image processing.

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SYNTHESIS OF PUTRESCINE BISAMIDES AS ANTIMICROBIAL AND ANTI-INFLAMMATORY AGENTS

[Paper Id – CHEM1071]

A Paper Presented by: [1]K. Bharat Kumar, [2]R. Srinuvas Rao, [3]S. Prasanthi, I. [4]Bhargavi, [5]G. Padma Rao, [6]V.Siddaiah
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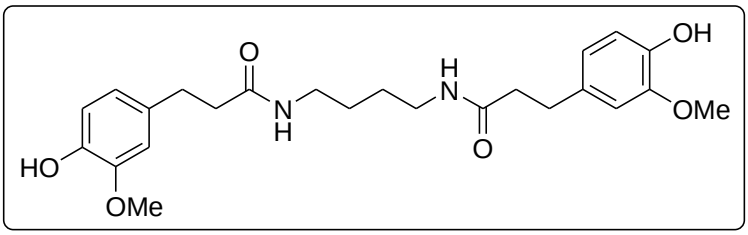
ABSTRACT

A new naturally occurring N_1, N_6-dihydrocinnamyl putrescine bisamide, JBIR-94[1], along with nine structural analogs and a series of substituted phenyl and alkyl putrescine bisamides have been synthesized from putrescine and appropriately substituted carboxylic acids, through carboxylic acid chlorides. Antimicrobial, 5-Lipooxygenase enzyme inhibitory and antioxidant studies were performed for all synthesized compounds. Dihydrocinnamyl series of putrescine bisamides (4a-4i) showed good bioactivities compared to substituted phenyl (6a-6g) and diakyl (6h-6j) series of compounds. Among all compounds, 4h (methylenedioxy analog) and 4a (JBIR-94) showed good antimicrobial, antiinflammatory and antioxidant activities.



JBIR-94

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REPLACING CRITICAL MATERIALS WITH ABUNDANT MATERIALS

[Paper Id – CHEM1072]

A Paper Presented by: [1]Drama Rao, [2]T.Satynarayana,[3]K.Baburao, [4]R.Suryanarayana.
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ABSTRACT

Replacing critical materials with abundant materials, particularly in applications that use large amounts of catalysts, would have many benefits. Abundant materials are cheaper, and more environmentally benign. Cheap and abundant metals also can be less selective, less tolerant of functional groups. Palladium-based homogenous catalysis, in particular, is of critical importance in the pharmaceutical and agricultural industries for forming carbon-carbon bonds. The 2010 Nobel Prize in Chemistry was awarded for palladium-catalyzed cross-coupling reactions, which can be used to make virtually any type of carbon-carbon bond needed. The powerful Buckwald-Hartwig carbon-nitrogen bond-forming reactions are another class of palladium-catalyzed chemistries used widely in the pharmaceutical and agricultural industries .But palladium is 3,000 times more expensive than copper and 4,000 times more expensive than nickel. It is possible, though, to substitute less expensive metals for palladium. A copper iodide/L-proline catalyst, for example, can be used to form carbon-carbon and carbon-nitrogen bond. A nickel catalyst can be used to make carbon-carbon bonds with some stereoselectivity, which enables the assembly of fairly complex organic molecules. In addition to the large price advantage that comes with substituting a prevalent, cheap metal for a rare, expensive metal, cheap metals are often environmentally more benign. Losses of metal are more easily tolerated in an industrial process, which can reduce or eliminate the recycling steps that are almost mandatory with expensive metal catalysts. The reasons that more cheap metal catalysts are not widely used today is that reactions catalyzed by cheap metals have not been widely studied to date, though they are receiving more attention now. Another reason is that the selectivity of cheap metal catalysts is not as good as is obtained with palladium catalysts, and the scope of the reactions is not as broad.

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SYNTHESIS OF NEW SERIES OF QUINAZOLINE DERIVATIVES USING MORITA- BAYLIS-HILLMAN REACTION

[Paper Id – CHEM1073]

A Paper Presented by; [1]Sumathi Vodnala, [2]Bhavani A. K. D, [3]Vijay Sagar
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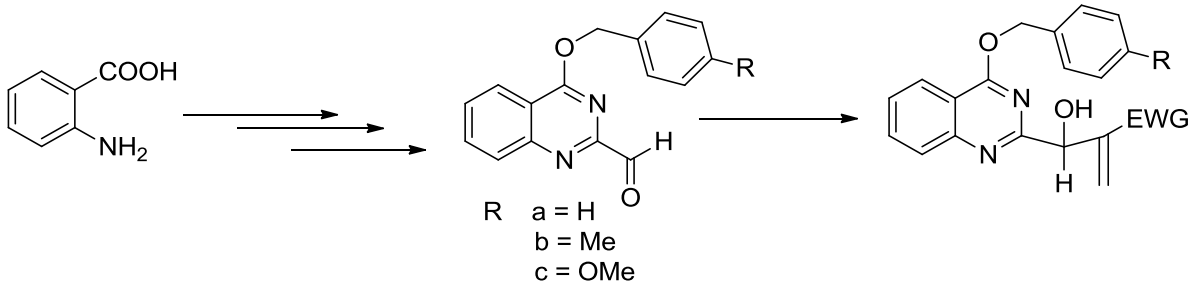
ABSTRACT

Quinazoline is a versatile and bioactive scaffold, which occupied a unique position due to the importance of its derivatives in biological, chemical and industrial fields. Its derivatives are endowed with variety of biological activities of which the most profound are anticancer,[1] antimicobacterial,[2] anti hepatitis C virus activity.[3] In addition to wide range of pharmacological activities of quinazoline derivatives, we are also focused on the Baylis-Hillman reaction, because the highly multi functionalized compounds produced from Baylis-Hillman reaction, which has attracted much attention of chemists and occupied one of the most demanding research areas in chemistry. Inspiring from these findings and in continuation of our research programme on quinazoline based bioactive compounds, here we are reporting the new series of quinazoline based Baylis-Hillman products using 4-araalkyloxy-quinazoline-2-carbaldehyde with various activated olefins using DABCO as catalyst. The products were characterized based on IR, ^{1}H NMR, ^{13}C NMR, and HRMS spectral data.



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THE ROLE OF THE OCEAN IN CLIMATE CHANGE

[Paper Id – ENVS1074]

A Paper Presented by: [1]D.Rama Rao,[1]Mohammed.Nargis

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ABSTRACT

Two-thirds of the earth surface is covered by water. Water is essential natural resource for sustaining life and environment which we have always thought to be available in abundance and free gift of nature. Water quality is very important and often degraded due to agricultural, industrial and human activities. Availability of quality freshwater is one of the most critical environmental issues of the 21st century. Groundwater is an important water resource for domestic and agriculture in both rural and urban parts of India. Drinking water with good quality is very important to improve the life of people and to prevent diseases. Though ground water is the major drinking water source, deterioration in its quality is going unchecked. The aim of the study is to evaluate the hydro geochemical characteristics of groundwater in the study area as well as to evaluate the variation in the groundwater geochemistry data and the suitability of the groundwater for irrigation purposes. In the study area ground water samples from different hydro geological set-up have been collected during the pre and post monsoon seasons and analyzed for the major ions such as Ca^{2+}, Mg^{2+},Na^{+}, K^{+}, CO_3^{2-}, HCO_3^{-}, Cl^{-}, SO_4^{2-}, NO_3^{-}.The study revealed that 95% of the samples were found to be unsuitable for drinking purposes in the pre-monsoon season and post monsoon season. Intense agriculture practices, improper sewerage and organic waste disposal methods were observed to contribute nitrate to the shallow and moderately deep aquifers. The irrigation parametric values viz., %Na, SAR, Kelly's Ratio are within the permissible limits of irrigation standards while the RSC and MH values are higher than the permissible limits of irrigation standards. Ground waters were analyzed for bacteria and the research results revealed that the ground waters were identified not only with MPN count in majority groundwater samples but also with other pathogenic bacterial species like E.Coli, Klebsiella, Pseudomonas, Proteus and Enterobacter indicating the bacterial contamination of ground waters. The research results confirmed the unsuitability of the ground waters for drinking and domestic purposes.

***Keywords*:** Groundwater, Characterization, Parameter, Bacteria, Health, Quality, Drinking

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STUDY ON PHYSICOCHEMICAL, TRACE METAL AND MICROBIAL ANALYSIS OF SAGO INDUSTRY EFFLUENT AND NEARBY GROUND WATERS TO

[Paper Id – CHEM1075]

A Paper Presented by: [1]D.RamaRao, [2]P.V.S.Machiraju, [3]Y.L.N.Murthy, [4]E.V.S.Subrahmanyam
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ABSTRACT

Water sources near Industrial areas are generally exposed to pollution due to the effluents generated from the industrial units. Sago industry is a small scale industry and also a seasonal industry operating from September to March in East Godavari District. The washed residue of sago when released in to the nearby streams along with waste water can cause serious environmental problems. The present study is aimed to characterize the effluent and ground water for physicochemical parameters viz., pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS),Total Hardness(TH), Total Alkalinity(TA), Na^+, K^+, Ca^{2+}, Mg^{2+}, Chloride, Sulphate, Nitrate and Phosphate around the industry to assess the impact of effluent on ground water. The irrigation parameters like Percent Sodium (%Na), Sodium Adsorption Ratio (SAR), Residual Sodium Carbonate (RSC), Kellys's Ratio (KR) and Magnesium hazard MH are determined to assess the suitability of waters for irrigation purposes. Metal ions viz.,Li, Be, Al, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Ag, Cd,Cs,Ba and Pb are characterized to assess the metal ion contamination .The higher values of EC,TDS,TA,Na, Chloride indicate the contamination of ground waters in the study area. Higher values of Magnesium Hardness indicate the (MH)of water which in turn deplete the quality of soil and consequently the crop yield will be reduced, if the waters are used for irrigation purposes. The lower metal ion concentrations indicate that the waters are free from metal toxicity. The water samples are also tested for MPN count and analyzed for identifying the bacterial species. Presence of pathogenic bacterial species viz**.,** *E.Coli ,Enterobacter, Klebsiella* and *Pseudomonas* indicate the bacterial contamination of waters and the waters can cause concern on human health, if consumed for drinking purposes. The waters are to be treated properly to protect the health of the public residing in the nearby habitations of the sago industry who consume these waters for drinking and domestic purposes.

Keywords: Sago effluent, ground water, bacteria, metal ion, parameter

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STRUCTURAL, MAGNETIC PROPERTIES OF CU SUBSTITUTED CO-MG NANO FERRITE SYNTHESIZED BY WET- CHEMICAL COMBUSTION METHOD

[Paper Id – PHY1076]

A Paper Presented by: [1]B. Rajesh Babu, [2]K. Rajasekhar Babu, [3]M.V.K.Mehar
[1] Department of Physics, GVP College of Engineering for Women, Visakhapatnam, Andhra Pradesh
[2]Department of Physics, Andhra University, Visakhapatnam, Andhra Pradesh.
[3]Department of Physics, GDC, Alamuru, E.G.Dt, AndhraPradesh.

ABSTRACT

The influence of Cu substitution on structural and magnetic properties of Co-Mg mixed nano ferrite synthesized by using a sol-gel auto combustion method is presented. Significant modifications in crystallite size and density are observed. Cation distribution estimated form X-ray intensity calculations show that Cu influence the preferential site occupancy of Mg ions. It is found that Cu and Mg simultaneously occupy tetrahedral (A) and octahedral (B) sites with different ratios. Particle size calculated using TEM for undoped Co-Mg ferrite is about 80 nm. Saturation magnetization increases initially and reaches a maximum value (x=0.3) and then decreases. The observed variation is explained on the basis of redistribution of cations (Cu^{2+} and Mg^{2+}) among the tetrahedral (A) and octahedral (B) sites.

Keywords*:* Co-Mg ferrite; XRD; TEM; Cu substitution; Combustion method;

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COMPUTER ASSISTED DESIGN AND SYNTHESIS OF NOVEL CHIRAL QUINOXALINE DERIVATIVES FROM 3-HYDROXYNOPINONE

[Paper Id – CHEM1077]

A Paper Presented by: [1]Boggu Jagan Mohan Reddy, [2]G. Rambabu, [3]N.Prudhvi [4]Raju R.Anjibabu, [5]Basireddy Venkata Subba Reddy, [6]Reddymasu Sreenivasulu
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ABSTRACT

Hepatitis C virus deadly virus which needs and demand permanent cure to serve the people affected across the globe. Molecular designing studies, led to the identification and development of Quinoxaline based new chemical entities, their putative binding site, key interactions within NS3h protein of HCV, and druglike properties of designed molecules are discussed. The condensation of 3-hydroxynopinone with chiral diamines such as 1,2-diaminocyclohexane and 1,2-diphenylethylenediamine provides the corresponding designed quinoxaline derivatives instead of chiral diimines in overall better yields. The hydroxynopinone has been prepared in good yields from commercially available β-pinene in 3 steps. All the molecules have been well characterized using analytical techniques like FT-IR, ^{1}H & ^{13}C NMR and HRMS.

Keywords: Indole**,** Indazole, breast cancer**,** tubulin, docking

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GROUND WATER QUALITY OF KOVVADA NUCLEAR POWER PLANT AREA IN KOVVADA, SRIKAKULAM DISTRICT, ANDHRAPRADESH.

[Paper Id – CHEM1078]

A Paper Presented by: [1]Yugandhar.M, [2]G.V.Subba reddy, [3]D.Rama Rao, [4]P.V.S.Machiraju

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ABSTRACT

The present study aimed for characterizing of groundwater quality in and around proposed Kovvada Nuclear Power Plant (NPP) project nearby seacoast of Srikakulam district, Andhrapradesh. Groundwater samples have been collected as per the protocol of BARC, Mumbai during pre and post monsoon periods (June 2014 and Dec., 2014). These samples were assessed for water quality parameters: Temperature, pH, Electrical Conductivity, Dissolved Oxygen, Biological Oxygen Demand, Chemical Oxygen Demand, Sulphates, Phosphates, Chlorides, Hardness (Calcium and Magnesium) and also trace metal analysis. The range of each parameter in the study area is: Temperature (28-31^{0}C), pH (6.4-8.5), TDS (102-3425 ppm), Dissolved oxygen (3.78-8.9 ppm), Biological oxygen demand (2-8.9 ppm), Chemical oxygen demand (2.4-8.6 ppm), Sulphates (4-364 ppm), Phosphates (0-0.65 ppm), Chlorides (7.9-2006 ppm), Hardness (45-1110 ppm). Statistical data indicated that most of the water samples in this area under WHO and BIS drinking water limits. Few samples are exceeding limits in characteristics like TDS, Hardness, Chloride, Sulphate, Phosphate because of the locations are nearby Bay of Bengal. The intensive data generated from this study area would act as bench mark database for future reference and also for impact assessment of NPP.

Keywords: Ground water, Physico-chemical analysis, Trace metal analysis

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EVALUATION OF PHYSICOCHEMICAL AND MICROBIAL ANALYSIS OF INDUSTRIAL EFFLUENT AND EFFECT ON GROUND QUALITY

[Paper Id – CHEM1079]

A Paper Presented by: [1]R.Brahmaji, [2]D.Rama Rao, [3]T.Satynarayana
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ABSTRACT

Water sources near Industrial areas are generally exposed to pollution due to the effluents generated from the industrial units. Sago industry is a small scale industry and also a seasonal industry operating from September to March in East Godavari District. The washed residue of sago when released in to the nearby streams along with waste water can cause serious environmental problems. The present study is aimed to characterize the effluent and ground water for physicochemical parameters viz., pH, Electrical Conductivity (EC), Total Dissolved Solids (TDS),Total Hardness(TH), Total Alkalinity(TA), Na^+, K^+, Ca^{2+}, Mg^{2+}, Chloride, Sulphate,Nitrate and Phosphate around the industry to assess the impact of effluent on ground water. The irrigation parameters like Percent Sodium (%Na), Sodium Adsorption Ratio (SAR), Residual Sodium Carbonate (RSC), Kellys's Ratio (KR) and Magnesium hazard MH are determined to assess the suitability of waters for irrigation purposes.The higher values of EC,TDS,TA,Na, Chloride indicate the contamination of ground waters in the study area. Higher values of Magnesium Hardness indicate the (MH)of water which in turn deplete the quality of soil and consequently the crop yield will be reduced, if the waters are used for irrigation purposes. The lower metal ion concentrations indicate that the waters are free from metal toxicity. The water samples are also tested for MPN count and analyzed for identifying the bacterial species. Presence of pathogenic bacterial species viz**.,** *E.Coli, Enterobacter, Klebsiella* and *Pseudomonas* indicate the bacterial contamination of waters and the waters can cause concern on human health, if consumed for drinking purposes. The waters are to be treated properly to protect the health of the public residing in the nearby habitations of the sago industry who consume these waters for drinking and domestic purposes.

Keywords: Industrial effluent, ground water, bacteria, metal ion, parameter, Pseudomonas

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Date: 24th & 25th January 2017

SYNTHESIS OF NOVEL 7-METHYL-5-(5-PHENYL-1,3,4-OXADIAZOL-2-YL)-2-PROPYL-1*H*-BENZO[*d*]IMIDAZOLE DERIVATIVES

[Paper Id – CHEM1080]

A Paper Presented by: [1]K.Rama Murthy, [2]Ramu Kakkerla, [3]M.P.S.Murali Krishna
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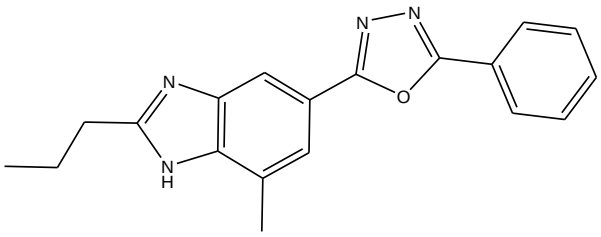
ABSTRACT

Among heterocyclic compounds, 1,3,4-oxadiazole has become an important construction motif for the development of new drugs. Compounds containing 1,3,4-oxadiazole cores have a broad biological activity spectrum including antibacterial, antifungal, analgesic, anti-inflammatory, antiviral, anticancer, antihypertensive, anticonvulsant, and anti-diabetic properties. They have also attracted interest in medicinal chemistry as surrogates (bioisosteres) for carboxylic acids, esters and carboxamides. Benzimidazole is another important heterocyclic scaffold, as it possesses a wide range of biological activities, *viz.* antiviral, anti-inflammatory, anti-HIV-1, antioxidant, antiproliferative, antitumor and potentialanticanceractivities. As a sequel to our work on screening for new biologically active molecules possessing benzimidazole moiety, we report the synthesis of 7-methyl-5-(5-phenyl-1,3,4-oxadiazol-2-yl)-2-propyl-1*H*-benzo[*d*]imidazole derivatives. 7-Methyl-2-propyl-*1H*-benzo[*d*]imidazole-5-carbohydrazide was prepared, and it is converted into, *N*'-Benzoyl-7-methyl-2-propyl-1*H*-benzo[*d*]imidazole-5-carbohydrazide with benzoyl chloride in tetrahydrofuran. The benzoyl hydrazides undergoes cyclization in $POCl_3$ to obtain 7-methyl-5-(5-phenyl-1,3,4-oxadiazol-2-yl)-2-propyl-1*H*-benzo[d]imidazole. The structures of all newly synthesized compounds were confirmed by their IR, ^1H and ^{13}CNMR and mass spectral analysis.



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Date: 24th & 25th January 2017

EFFECT OF STOICHIOMETRIC AND NON-STOICHIOMETRIC ON CHENICAL AND PHYSICAL PROPERTIES OF FERRITE MATERIALS: AN ANALYTICAL STUDY

[Paper Id – CHEM1081]

A Paper Presented by: [1]M.V.K.Mehar, [2]V.SomashekaraRao, [3]K .VenkateswaraRao, [4]D.RamaRao

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ABSTRACT

Different ferrites were prepared with compositional formulae $[Li_{0.5+x}\ Sb_x\ Fe_{2.5-2x}]O_4$, $2[Li_{(1+3y)/2}\ Mo_y\ Fe_{2.5-3y/2})]O_4$, $[Li_{0.5+x}Nb_xFe_{2.5-2x}]O_4$, $Mg_{0.9}Mn_{0.1+x}\ Ti_x\ Fe_{2-2x}O_4$, $Mg_{0.9}Mn_{0.1+x}Zr_x\ Fe_{2-2x}O_4$ etc. were prepared under solid state reaction method sintered at1000^{o}C – 1300^{o}C. All are showed different properties at different sintering temperatures due to evaporation of some dopent elements like lithium, Niobedium, Zirconium ect.at high melting temperatures due to reduction of Fe^{3+} to Fe^{2+}. At high temperature all are showed at high density and high coercivity. Saturation magnetization were showed good values at lesser temperatures (~1100^{o}C) but Curie Temperatures showed maximum at High Temperature especially Lithium ferrites. Mechanical properties of all materials were good at high Temperatures. Conduction mechanism showed different due to different temperatures take place between Fe^{2+} and Fe^{3+}.

Keywords: Ferrite Materials, Sintering Temperatures, Properties, Stoichiometry.

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(ICETCPEST-2017)

Date: 24th & 25th January 2017

SYNTHESIS & CHARACTERIZATION OF NEW CARBOXYAMIDES USING MIBA

[Paper Id – CHEM1082]

A Paper Presented by: [1]N. Krishna Rao, [2]M Surendra babus, [3]K. Appa Rao, R Keshavi, [4]N Sundar Rao, [5]Y L N Murthy
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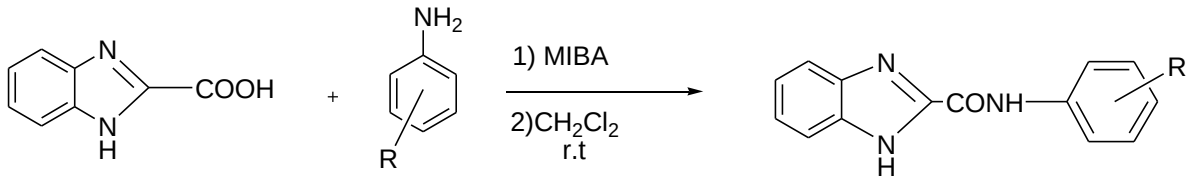
ABSTRACT

The Carboxyamide group (-CONH-) is widely prevalent in both naturally occurring and synthetic compounds. It is increasingly important in pharmaceutical chemistry., as amidiation reactions being the most commonly used reactions in medicinal chemistry. 5-methoxy – 2- iodo phenyl boric acid(MIBA) is a kinetically potent catalyst for direct amidation. 1H – benzo[d] imidazole – 2-carboxilic acid is treated with substituted aryl amines, resulting the formation of N- phenyl – 1H- benzo[d] imidazole – 2-carboxilic amide. The advantage of this reagent excel in high yield and less reaction time. An effective condensation of 1H – benzo[d] imidazole – 2-carboxilic acid with substituted aryl amines in the presence of MIBA / DCM to obtain a crude product which recrystallized from ethanol. All the synthesized compounds were well characterized by IR, 1H NMR, 13C NMR & LCMS Spectroscopic data. Synthetic details will be presented. (SCHEME-1)



R = H, -OH, -OCH_3, -CH_3, -Cl, NO_2, CN

SCHEME : 1

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Date: 24th & 25th January 2017

THE SIGNIFICANCE OF BIODEGRADABLE POLYMERS IN OUR DAILY LIFE

[Paper Id – CHEM1083]

A Paper Presented by: [1]M.Muniprasad, [2]M.S.Sudhir, [3]R.Venumadhav, [4]G.V.S.Vallinath, [6]Y.Rajareddy
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ABSTRACT

In the recent years, bio-based and biodegradable products have raised great interest since sustainable development policies tend to expand with the decreasing reserve of fossil fuel and the growing concern for the environment. These polymers bring a significant contribution to the sustainable development in view of the wider range of disposal options with minor environmental impact. We make an attempt to discuss the significance of biodegradable polymers in this paper.

Keywords: Biodegradable materials-classification- trade names-uses.

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PHYTOCHEMICAL ANALYSIS AND ANTIMICROBIAL STUDIES OF VARIOUS EXTRACTS OF TOMATO (SOLANUMLYCOPERSICUML.)

[Paper Id – CHEM1084]

A Paper Presented by: Karunakar .T
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ABSTRACT

Tomato (SolanumlycopersicumL.) is one of the most important vegetables worldwide because of its high consumption, year round availability and large content of health related components. Tomatoes contain a variety of phytochemicals such as lycopene, -carotene, vitamin C, quercetin glycosides, naringeninchalcone and chlorogenic acid and have good health protective effects. The present work is to search antimicrobial activity of methanol (E1), ethanol (E2), acetone (E3), chloroform (E4) and ether (E5) extracts from tomato fruits. The antibacterial property was evaluated by using agar diffusion method using bacterial cultures Staphylococcus aureus(ATCC 9144),Bacilussubtilis(ATCC 6633), Pseudomonas aeruginosa(ATCC 27853), Escherichia coli (ATCC 25922) and fugal culture of Aspergillusniger(ATCC 9029), Aspergillusflavus(ATCC 204304), Candida albicans(ATCC 10231). By observing it was found that most of the extracts executed moderate to good antimicrobial activity against the tested micro-organisms. The extracts were active against all the tested microorganism for anti-bacterial activity with range of MIC values for S.aureus(MIC: 15-39 µg /ml), E.coli(MIC: 16-38 µg /ml) ,P.aeruginosa(MIC:15-39 µg /ml) and B.subtilis(14-39 µg /ml) The extracts were active against all the tested microorganism for anti-fungal activity with the range of MIC values for A.niger(MIC :17-39 µg/ml),A.flavus(18-37 µg/ml) and C.albicans(16-35 µg/ml).

Keywords: SolanumlycopersicumL., Phytoconstituents, Lycopene, antibacterial activity, Antifugal activity

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DEVELOPMENT AND VALIDATION OF STABILITY INDICATING RP-HPLC METHOD FOR SIMULTANEOUS ESTIMATION OF CHLORPROPAMIDE AND PHENFORMIN IN BULK AND PHARMACEUTICAL DOSAGE FORM

[Paper Id – CHEM1085]

A Paper Presented by: [1]P.Sivakumar, [2]Prof. G.V.Subbareddy, [3]Dr.V.Ranga Rao, [4]V.Sanjeeva Kumar

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ABSTRACT

In Pharmaceutical Industry, researchers aim at catering to the need of robust analytical methods for analysis of generic drug products. This paper presents a simple, rapid, economic, sensitive, precise and reproducible RP-HPLC method for simultaneous determination of Chlorpropamide and Phenformin in bulk and pharmaceutical dosage form and its subsequent validation as per ICH guidelines. These two drugs are used in the treatment of Type 2 diabetes. The Chromatographic separation of the two drugs was accomplished on Kromosil 100-5-$\mathbf{C_{18}}$(250 mm x 4.6mm; 5µ particle size) column using Potassium dihydrogen phosphate buffer (adjusted to pH 4.6 by Ortho phosphoric acid): Methanol: Acetonitrile (35:35:30%, v/v) in isocratic mode at a flow rate of 1 mL/min. The effluent detection was monitored at 218 nm using a LC-UV 7000 absorbance detector. The proposed method was validated in terms of linearity, accuracy, stability, precession, ruggedness, robustness as per ICH guidelines. This method shows the excellent linearity over a range of 5-30 µg/mL for chlorpropamide and 2.5-15 µg/mL for Phenformin. The retention times were found to be arround 4.16 min and 5.72min respectively for Chlorpropamide and Phenformin. The mean recovery values for Chlorpropamide and Phenformin were 99.75% and 99.56% respectively.Both the substances were exposed to acidic, alkaline, oxidative, thermal and photolytic stress conditions. The described method was found to be specific and stability indicating as no interfering peaks of degradants and excipients were observed. Hence this method can be successfully employed for simultaneous quantitative analysis of Chlorpropamide and Phenformin in bulk and pharmaceutical formulations.

Keywords: Chlorpropamide, Phenformin, RP-HPLC, Stability indicating method, Isocratic.

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ASSOCIATIONS OF OBESITY AND TYPE-2 DIABETES IN VISAKHAPATNAM URBAN AND PADERU RURAL AREAS: A COMPARATIVE STUDY

[Paper Id – ZOOL1086]

A Paper Presented by: [1]Pangi Vijaya Nirmala, [2]D Hemalatha devi
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ABSTRACT

Background: Gestational Diabetes in women (GDIW) is a serious health problem worldwide. There is no available data on Gestational diabetes in eastern coastal region of Andhra Pradesh (AP). The objective of the study is to assess the prevalence of Gestational diabetes in women (GDIW) in Indian clinic population of Visakhapatnam District.

Methods: The sample included women <40 years age group. A comparative study was made on the epidemiology of GDIW from two areas i.e., Paderu (PDR) tribal area and Visakhapatnam (VSKP) urban area for a period of three years (2008-2010). The size of the sample was 764 including 382 from urban and 382 from rural area respectively. Oral glucose tolerance test (OGTT) was used to confirm diabetic in the participants. Anthropometric factors include age, sex, height, weight, education were noted. In known diabetic cases onset age, duration of the diabetes, levels of cholesterol, systolic and diastolic blood pressure. In positive cases effort was made to study the causative factors for onset of diabetes mellitus (DM) i.e. genetic factors, obesity (gestational weight gain (GWG) body mass index-BMI & waist to hip ratio-WHR), stress enzymes (AChE and BChE) and complication were studied.

Results: Among 764, 14 (1.8%) from rural and 89 (11.65%) of urban area showed positive to oral glucose tolerance test (OGTT) and were confirmed as diabetic. 168 (43.98%) of rural & 48 (12.57%) from city were underweight (BMI < 18.5), 172 (45.02%) of rural and 124 (32.46%) from city had normal pre-pregnancy & BMI, 36 (9.42%) of rural & 143 (37.43%) from city were overweight (25 ≤ BMI < 30) and 6 (1.57 %) of rural & 67 (17.54%) were obese (BMI ≥ 30). Following the IOM recommendations, The data was analyzed using SPSS. Obesity was not significantly associated with gestational diabetes.

Conclusion: The results shows that gestational weight gain is more in city women compared to rural women. Unlike in studies in different ethnic and racial groups, obesity was not associated with gestational diabetics in the present study. These types of studies are important, since they are the indicators of future diabetes prevalence in the society, adds data to the Diabetes Atlas and also shows the burden on the nation, so that necessary steps may be taken to prevent gestational diabetes in women to some extent.

Author Keywords: Gestational Diabetes in women (GDIW) Oral glucose tolerance test (OGTT); body mass index (BMI), waist to hip ratio (WHR), Gestational weight gain (GWG), Stress enzymes

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A NEW METHOD FOR THE SPECTROPHOTOMETRIC DETERMINATION OF NAFTOPIDIL IN BULK AND DOSAGE FORMS BY USING COBALT THIOCYANATE

[Paper Id – CHEM1087]

A Paper Presented by: [1]Dr.E.S.R.S.Sarma, [2]E.V.S.Subrahmanyam, [3]T. Varaprasad, [4]Dr. D.S.V.N.M.Rama murthy, [5] M. Subba Lakshmi
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ABSTRACT

The author presents a simple and sensitive spectrophotometric method for the determination of Naftopidil in bulk and in dosage forms. This method is based on the formation of green colored coordination complex when the Naftopidilreacts with cobaltthiocyanate (CTC). The colored species formed is extractable in to nitrobenzene from aqueous solution. CTC has been proved to be a valuable chromogenic reagent for the detection and determination of compounds possessing a tertiary amino group. The optimum conditions of the reactions for the proposed method were studied and fixed. Results of the assay were statistically validated and recorded. The study presents a validated method for the assay of Naftopidil in bulk and dosage forms at λ_{max} of 616 nm, with molar absorptivity of 5.609 x10^3L. $mole^{-1}cm^{-1}$, Sandell's sensitivity of 0.0917, correlation coefficient of 0.9746 and % RSD of 0.2748. The proposed method was applied successfully for the determination of Naftopidilin commercial dosage forms and no significant interference was observed from the excipients commonly used as pharmaceutical aids with the assay procedure. System suitability, specificity, linearity, accuracy and precision were performed.

Keywords: Naftopidil, Cobaltthiocyanate (CTC), Nitrobenzene, Buffer & visible spectrophotometer.

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RIVER BANK FILTRATION- A NATURAL TREATMENT OF DRINKING WATER

[Paper Id – ENVS1088]

A Paper Presented by: Y.R.Satyaji Rao
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ABSTRACT

Most of the drinking water schemes in the State of Andhra Pradesh, India mainly depend upon river water through infiltration galleries or intake wells. Some of these drinking water schemes are operating by diverting river water through canals into artificial or natural tanks/ponds and thereby to elevated water tanks after proper treatment. Presently the Rural Water and Sanitation (RWS) department is supplying protected drinking water to villages from groundwater by drilling bore wells in suitable geological formations and nearby river banks. After conducting field survey in alluvium formations of Andhra Pradesh, it is found that there is no technically designed River Bank Filtration (RBF) method found in the field. However few river bank bore wells yields good quantity and quality of water. Drinking water schemes in coastal Andhra Pradesh were visited especially on Gostani, Sarada and Godavari rivers, and during the visit river water/riverbank bore water samples were collected and analyzed for chemical parameters. It is found that there is a significant difference between river water and river bank bore well water hydrochemistry. Therefore there is a potential scope for technically designed RBF schemes at river banks for yielding better quality of potable water or less maintenance in treatment of raw water.

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THEORETICAL EVALUATION AND EXPERIMENTAL STUDY OF ULTRASONIC VELOCITIES IN BINARY LIQUID MIXTURES OF TRICHLOROETHYLENE WITH THREE ALCOHOLS AT 303.15 K

[Paper Id – PHY1089]

A Paper Presented by: [1]J. Panduranga Rao, [2]K. Jyothi, [3]K. Nanda Gopal, [4]G. Srinivas

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ABSTRACT

Theoretical velocities of binary liquid mixtures of Trichloroethylene (TE) with 1-Pentanol, 1-Hexanol, and 1-Heptanol at T = (303.15) K have been evaluated by employing two theoretical models of the ultrasonic velocity determination, viz. Nomoto (NOM) and Van Dael & Vangeel (VDV). Ultrasonic velocities and densities of these mixtures have also been measured experimentally as a function of composition. A good agreement is found between experimental and theoretical values. U2exp/U2 imx has also been evaluated for non-ideality in the mixtures. The results are discussed in terms of intermolecular interactions between the component molecules in these binary liquid mixtures.

Keywords: Theoretical ultrasonic velocities, experimental velocities, Hydrogen bonding, molecular interaction parameter.

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STUDY OF SCHIFF BASE COMPOUNDS AND ITS DERIVATIVES

[Paper Id – CHEM1090]

A Paper Presented by: Balaji Gangadharrao Kolapwar
Department of Chemistry, Shree Renukadevi Arts, Commerce & Science College, Mahur Dist. Nanded

ABSTRACT

The Schiff Base compounds are versatile compounds which is synthesized from the condensation of primary amines with carbonyl groupes. It is also known as ketimines. The synthesized Schiff base were characterized by spectral technique like UV-Spectra and IR – Spectra. The transition metal complexes derived from the Schiff base legends have been widely studied in the present paper. The ketimines were also prepared from methyl-1-naphthy ketone with Aniline, 2-chloro-aniline, 3- chloro aniline, 4-Chloro-aniline and 2-nitroaniline by using toluene solvent by using reflux method and it is confirmed by its colour and physical constant.

Keywords: Ketimines, Schiff Base ligands, toluene solvent reflux method.

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Date: 24th & 25th January 2017

SEED BORNE FUNGI OF SUNFLOWER

[Paper Id – LS1091]

A Paper Presented by: Kiran A. Khade
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ABSTRACT

The deterioration in sunflower seed due to fungi is of the great importance in the present study nine seeds were isolated from abnormal sunflower seed. Which is collected from a different location the different vairaty like, SS- 56, surya, KBSH-1, LSH-1, LSH-3, MSFH-1, AP5H-1, BSH-1, MSFH -17 were studied. These seeds were associated with 45 species of fungi belonging to 19 general the Broadest species spectrum on most cultivars consiste of genera Aspergillus, Alternaria, and fusarium followed by pencillium, chaetomium, Trichoderma, and ulocladium, Aspergillus niger, A flavus, Chaetomium globosum. Alternaria alternate, A Funmigatus, Ch. Atrobrunneum, A terruss, penicillium expansun, P. brevicompactum, Fusarium oxysporum. F. solani, Rhizopus Stolonifer, Mucor hiemalies and A. Ochraceus were the most frequent species. The species composition, percentage of seed infection and seed germination percentage differed among cultivars 55-56 show the lowest number of detected species where as the highest number was isolated from surya species and the highest fungal infestation was recorded in unidentified local cultivar 3 maximum seed germination occure in MSFH–1. The seed borne pathogenic species Macrophomina phaseolina was detected.

Keywords: Deterioration, Cultivar, Species Spectrum.

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WATER FOR PHARMACEUTICAL USES

[Paper Id – CHEM1092]

A Paper Presented by: [1]E.V.S.Subrahmanyam, [2]Suvarna j Navuduri, [3]Adi Lakshmi Balasadi, [4]Sandhya Rani Dalli
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ABSTRACT

Water is the one of the major commodities used by the pharmaceutical industry. It is widely used as a raw material, ingredient and solvent in the processing, formulation, and manufacture of pharmaceutical products, active pharmaceutical ingredients (APIs) and intermediates, and analytical reagent.lt may also present as an excipient, or used for reconstitution of products, during synthesis, during production of finished product, or as a cleaning agent for rinsing vessels, equipment and primary packing materials etc. There are any different grades of water used for pharmaceutical purposes. Several are described in USP monographs that specific uses, acceptable methods of preparation, and quality attributes. These classes of water can be divided into two general types: bulk waters, which are typically produced on site where they are used; and packaged waters, which are produced, packaged, and sterilized to preserve microbial quality throughout their packaged shelf life. There are several specialized types of packaged waters, differing in their designated applications, packaging limitations, and other quality attributes.

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RADIOACTIVE POLLUTION

[Paper Id – CMER1093]

A Paper Presented by: Dr. Jangam Vijaya Kumar
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ABSTRACT

The radioactive pollution is defined as the physical pollution of air, water and the other radioactive materials. The ability of certain materials to emit the proton, gamma rays and electrons by their nuclei is known as the radioactivity. The protons are known as the alpha particle and the electrons are also known as the beta particle. Those materials are known as the radioactive elements. The environmental radiations can be from different sources and can be natural or manmade. The natural radiations are also known as the background radiations. In this the cosmic rays are involved and reach the surface of earth from space. It includes the radioactive elements like radium, uranium, thorium, radon, potassium and carbon. These occur in the rock, soil and water. The man made radiations include the mining and refining of plutonium and thorium. This production and explosion of nuclear weapons include the nuclear fuels, power plants and radioactive isotopes. The radioactive materials are passed through the land to water and cause an adverse effect on the aquatic animals. They reach to human through the food chain. The nuclear power generates a lot of energy which is used to run turbines and produces electricity. The fuel and the coolant produce a large amount of pollution in the environment. The atomic reactors are also rich in the radioactive materials. There biggest problem is in their disposal and if they are not properly disposed they can harm the living organisms. If they escape they can cause a hell lot of destruction. The gases escape as a vapor and cause pollution on the land and water. The use of radioactive isotopes is multipurpose. They are of a great scientific value and they may be present in the waste water. From these water resources they reach to the human body via food chain. The people who work in power plants have more chances of the exposure to harmful radiations. The human beings also receive the radiation and radiotherapy from the x rays.

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THIN-LAYER CHROMATOGRAPHY SEPARATION OF CARBOHYDRATES

[Paper Id – CHEM1094]

A Paper Presented by: [1]R. Surya Narayana, [2]Vaishnu Kumar Guttula, [3]Ravi Kumar Rangola, [4]Pavan Kumar Boddu
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ABSTRACT

Thin-layer chromatography, with its inherent simplicity of operation and sufficiently high degree of sensitivity and resolution, can, as a preliminary technique in the analysis of sugars and related compounds, replace other more sophisticated procedures such as gas-liquid and ion-exchange chromatography. Furthermore, as far as the identification of the sugar compounds is concerned, TLC is superior because it permits the use of rapid differential reactions on the layer and the utilization of other criteria such as RF values and color variations.

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THYROXINE LIKE ACTIVITY IN PHYLLANTHIN & HYPOPHYLLANTHIN-ACTIVE PRINCIPLES OF *PHYLLANTHUS AMARUS LINN.*

[Paper Id – CHEM1095]

A Paper Presented by: Suvarna J Navuduri
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ABSTRACT

Hypothyroidism is associated with the deficiency in the production of thyroid harmone Viz. T3 and T4 which is common in hilly areas. Iodine deficiency is the most common cause of hypothyroidism in many areas of developing countries as Asia, Sub-urban Africa and Latin America. The problem of iodine deficiency disorders (IDD) is hypothesized to be aggravated by the malnutrition, environmental goitrogens and microbial pollution in these areas. Various chemical agents such as Thiouracils (methimazole, carbimazole) & imidazoles are used to treat the disease. In order to overcome the side effects and to have less expensive drugs, many herbal drugs are being investigated in the treatment of hypothyroidism. An extract from the aerial parts of plant Phyllanthus amarus show significant hepatoprotective activity. As the liver metabolizes the thyroid harmones T3 & T4, in liver disorders the serum concentrations of both the thyroid harmones are expected to be affected. With this back ground the present studies were designed to study the anti thyroid activity of phyllanthin and hypophyllanthin compounds isolated from Phyllanthus amarus.

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SUN PROTECTION FACTOR OF ALOE VERA AND CARICA PAPAYA

[Paper Id – CHEM1096]

A Paper Presented by: [1]Adi Lakshmi Balasadi, [2]Lakshmi Manjula Devi Yalla, [3]Anu Sai Lokkoji, [4]Sandhya Rani Dalli

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ABSTRACT

Sun Protection Factor of Aloe Vera and Carica Papaya were studied**.** Due to its antioxidant and photo protective properties, Aloe Vera & Carica papaya is a promising candidates for use in cosmetic and pharmaceutical formulations. The sun protection factors were analyzed by ultraviolet (UV) spectrophotometry using samples irradiated with UVB lamp. It is screened for in vitro sun protection factor in both Aloe Vera & Carica papaya extract and determines SPF. This proved activity of plants showed its importance and prophylactic utility in anti- solar formulation. This will be a better, cheaper and safe alternative to harmful chemical sunscreens that used now a day in the industry.

Keywords: UV protective, SPF Aloe Vera and Carica papaya.

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WATER POLLUTION

[Paper Id – CMER1097]

A Paper Presented by: Smt.K.N.B.KUMARI
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ABSTRACT

Water pollution is a serious problem for the entire world. It threatens the health and well bein of humans, plants, and animals. As the world became more industrial and smaller due to communications and trade, accidental and purposive hazardous dumping has contributed to the problem of sea pollution. All water pollution is dangerous to the health of living organisms, but sea and river pollution can be especially detrimental to the health of humans and animals. Rivers and seas are used as primary sources of potable water by populations all over the world. Another serious consequence of this pollution is the effect of this pollution on trade in the polluted areas. This paper examines cases which reflect different causes of sea and river pollution, the seriousness of this pollution, the effect of this pollution on trade, and a possible global solution to this problem. Water Pollution resulting from increased human activities is threatening Lake Victoria, its effects being characterised by eutrophication and the occurrence of dramatically low dissolved oxygen levels. This study applies a system of pollution inventory methods to estimate waste loads from pollution sources on the basis of functional variables and pollution intensities. Penetration factors are used to incorporate the effects of treatment facilities and of natural 'purification' in rivers and wetlands. The application of a basic error analysis provides insight into the reliability of results. A one-dimensional model is applied to assess the overall nutrient balance. Results show that biological oxygen demand (BOD) load is highest on the Kenyan side. Domestic BOD loads exceed industrial loads in all regions, and management policies should therefore be directed primarily towards a reduction of domestic pollution. Nutrient input appears to originate mainly from atmospheric deposition and land runoff, together accounting for approximately 90% of phosphorous and 94% of nitrogen input into the lake. The increase in eutrophication is most probably due to an increase in nutrient input from these sources, as a result of increased human activities in the lake surroundings, such as land exploitation for agriculture and forest burning. Policies for sustainable development in the region, including restoration and preservation of the lake's ecosystem, should therefore be directed towards improved land-use practices and a control over land clearing and forest burning.

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VITAMINS AND THEIR IMPORTANCE ON HUMAN LIFE

[Paper Id – CHEM1098]

A Paper Presented by: [1]M.Anitha Prasanna,[2]K.Vanitha, [3]SK.Kamima, [4]V.Rama Lakshmi
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ABSTRACT

There is probably no other vitamin, with the possible exception of vitamin C, for which the need in man is more clearly demonstrated than thiamine, no other vitamin for which, with the exception of some question about intestinal formation, dependence on outside sources is so clearly demonstrated, no other vitamin about which so much is known of the intimate biochemical reactions in which it participates without knowledge of the mechanism by which a deficiency causes the symptoms, physical signs and functional and organic lesions that accompany that deficiency. The chemical nature, biochemistry and physiology of thiamine have been described in detail elsewhere, as has the chemical lesion of the deficiency. The effects of a deficiency are peripheral neuritis and congestive heart failure. In addition to these clearcut, unmistakable functional and structural disorders, there are, apparently, disturbances in the psyche[2] and, possibly, in certain endocrine functions.

Keywords: Vitamin, Dependence, Biochemical, Functional

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ASSESSMENT OF GROUNDWATER QUALITY AND ITS SUITABILITY FOR AGRICULTURAL USE AND POTABILITY

[Paper Id – CHEM1099]

A Paper Presented by: [1]Ch.V.V.Satyavani, [2]K.Jhansi Lakshmi, [3]D.Balarama Raju and [4]S.Padmavathi
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ABSTRACT

Two-thirds of the earth surface is covered by water. Water is essential natural resource for sustaining life and environment which we have always thought to be available in abundance and free gift of nature. Water quality is very important and often degraded due to agricultural, industrial and human activities. Availability of quality freshwater is one of the most critical environmental issues of the 21st century. Groundwater is an important water resource for domestic and agriculture in both rural and urban parts of India. Drinking water with good quality is very important to improve the life of people and to prevent diseases. Though ground water is the major drinking water source, deterioration in its quality is going unchecked. The aim of the study is to evaluate the hydro geochemical characteristics of groundwater in the study area as well as to evaluate the variation in the groundwater geochemistry data and the suitability of the groundwater for irrigation purposes. In the study area ground water samples from different hydro geological set-up have been collected during the pre and post monsoon seasons and analyzed for the major ions such as Ca^{2+}, Mg^{2+},Na^{+}, K^{+}, CO_3^{2-}, HCO_3^{-}, Cl^{-}, SO_4^{2-}, NO_3The irrigation parametric values viz., %Na, SAR, Kelly's Ratio are within the permissible limits of irrigation standards while the RSC and MH values are higher than the permissible limits of irrigation standards. The waters are to be properly treated even for consideration for irrigation purposes or otherwise the higher levels of Magnesium Hazard levels deplete the soil quality and consequently the crop yields will be minimized. Ground waters were analyzed for bacteria and the research results revealed that the ground waters were identified not only with MPN count in majority groundwater samples but also with other pathogenic bacterial species like E.Coli, Klebsiella, Pseudomonas, Proteus and Enterobacter indicating the bacterial contamination of ground waters. The research results confirmed the unsuitability of the ground waters for drinking and domestic purposes.

Keywords: Groundwater, Characterization, Parameter, Bacteria, Health, Quality, Drinking.

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NAVAL CHALLENGES, OPPORTUNITIES AND APPLICATIONS OF GREEN CHEMISTRY

[Paper Id –BITEC1100]

A Paper Presented by: [1]A.lalitha, [2]K.mahalakshmi, [3]P.rajeswari, [4]K.swathi
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ABSTRACT

The Green Chemistry revolution is providing an enormous number of challenges to those who practice chemistry in industry, education and research. With these challenges however, there are an equal number of opportunities to discover and apply new chemistry, to improve the economics of chemical manufacturing. Green chemistry is a philosophy and study of the design of products or substances that will not involve materials harmful to the environment. This area of chemistry had been developed by the need to avoid chemical hazards that organic and inorganic compounds had on the body of humans and animals. Chemistry plays a pivotal role in determining the quality of modern life. The chemicals industry and other related industries supply us with a huge variety of essential products, from plastics to pharmaceuticals. However, these industries have the potential to seriously damage our environment. Green chemistry therefore serves to promote the design and efficient use of environmentally benign chemicals and chemical processes Also, the more successful chemistry researchers and educationalists will be those that can appreciate the value of green chemistry in innovation, application and teaching .While many exciting new greener chemical processes are being developed it is clear that a far greater number of challenges lie ahead. In two of the largest generic areas of chemistry, acid catalysis and partial oxidations, there are countless processes operated by almost every type of chemical manufacturing company, producing products of incalculable value yet also producing almost immeasurable volumes of hazardous waste. New greener chemistry is needed. One of more important development areas in this context will be the more widespread use of heterogeneous catalysis in liquid phase organic reactions. The enormous range of reactions and the rapidly growing number of new catalysts will require the use of rapid screening methods and the use of innovative engineering to fully exploit the new chemistry.

Keywords: challenges, environment, pharmaceuticals, successful, innovation, development.

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EXCIPIENTS USED IN INJECTABLE PRODUCTS: CURRENT & FUTURE USAGE

[Paper Id –CHEM1101]

A Paper Presented by: [1]Suvarna j Navuduri, [2]Sravani Tota,
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ABSTRACT

Formulation of a new drug product with excipients that have been previously added to an approved injectable product may save pharmaceutical companies developmental time and cost. The research was consolidated into eight tables, categorizing excipients as 1) Solvents and Co–solvents, 2) Solubilizing, Wetting, Suspending, Emulsifying or Thickening agents, 3) Chelating Agents, 4) Antioxidants and Reducing Agents, 5) Antimicrobial Preservatives, 6) Buffers and pH Adjusting Agents, 7) Bulking Agents, Protectants, and Tonicity Adjustors, and 8) Special Additives. Where applicable, tables list frequency of use, concentration, and an example of a commercial product containing the Excipients. Excipients are added to parenteral dosage forms to serve a variety of functions including stabilization and as vehicles. Safety concerning excipients has evolved as the scientific community continues to learn about their usage. New excipients are being used in early phases of clinical trials because these excipients are not inert, various pharmacopoeias are responding with monographs or informational chapters addressing excipient functionality. The final sections of this article discuss new excipients, serving specific needs that traditional excipients are unable to provide and for which safety studies are necessary to support a novel excipient for marketing applications.

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NOISE POLLUTION: A MODERN PLAGUE

[Paper Id –CMER1102]

A Paper Presented by: Ch. Balaji
Lecturer In Commerce, P.R.Govt.College (A), Kakinada, East Godavari District

ABSTRACT

Noise is defined as unwanted sound. Environmental noise consists of all the unwanted sounds in our communities except that which originates in the workplace. Environmental noise pollution, a form of air pollution, is a threat to health and well-being. It is more severe and widespread than ever before, and it will continue to increase in magnitude and severity because of population growth, urbanization, and the associated growth in the use of increasingly powerful, varied, and highly mobile sources of noise. It will also continue to grow because of sustained growth in highway, rail, and air traffic, which remain major sources of environmental noise. The potential health effects of noise pollution are numerous, pervasive, persistent, and medically and socially significant. Noise produces direct and cumulative adverse effects that impair health and that degrade residential, social, working, and learning environments with corresponding real (economic) and intangible (well-being) losses. It interferes with sleep, concentration, communication, and recreation. The aim of enlightened governmental controls should be to protect citizens from the adverse effects of airborne pollution, including those produced by noise. People have the right to choose the nature of their acoustical environment; it should not be imposed by others.

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INFLUENCE OF ENVIRONMENTAL CHANGES ON BIODIVERSITY

[Paper Id –CMER1103]

A Paper Presented by: R. Lydia
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ABSTRACT

Biodiversity refers to all living things, not just the organisms we can see, and not just the organisms people tend to like (cute furry animals, usually). While conservation biology aims to protect biodiversity, conservation also includes making choices about human use of the environment and prioritizing goals. There are no "right" answers in most conservation decisions. We said edges are bad in the context of habitat fragmentation. But you may have also heard that interesting things happen at habitat edges, where two habitats meet in the area called an ecotone. Sometimes a greater diversity of species is present in an ecotone because two different habitats meet there. However, when habitat fragmentation happens, it is usually habitat with buildings or crops at the edge, not other types of natural habitat. Buildings or crop fields may be habitat for some species, but they do not support the diversity that natural habitat does. Atmospheric and hydrologic pollution have far-reaching negative effects on biodiversity. Pollution from burning fossil fuels such as oil, coal and gas can remain in the air as particle pollutants or fall to the ground as acid rain. Acid rain, which is primarily composed of sulfuric and nitric acid, causes acidification of lakes, streams and sensitive forest soils, and contributes to slower forest growth and tree damage at high elevations. They also displace whatever organisms were living there before. Pollution from human activities has caused ozone to be destroyed (or "depleted") in the stratosphere, leading to the "hole" in the ozone layer. Technically, it's not exactly a hole but a depletion of ozone around the north and south poles. Chemicals used in air conditioners, pesticides, aerosol propellants, such as chlorofluorocarbons (CFCs) and other ozone-depleting chemicals called halocarbons are responsible for destroying ozone in the upper atmosphere. When ozone in the protective layer has been destroyed, it lets more UV-B reach the ground. These harmful rays cause sunburns and skin cancer in people, damage crops, and harm marine algae. The good news is that the main ozone-depleting chemicals are being phased out and are not allowed when an alternative chemical can be used instead. Depletion of ozone is actually a reversible event—as long as we stop using chemicals that destroy ozone, our stratosphere should return to normal eventually. The EPA estimates ozone levels will return to normal by 2050.

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GREEN RESOURCES AND PRODUCTION OF BIO DIESEL FROM SEA PRODUCTS

[Paper Id –CHEM1104]

A Paper Presented by: [1]D.Rama Rao. [2]D.Satyavani, [3]A .Devi Krishnaveni, [4]J. Hema Durga Lakshmi, [5]P.G.S. Raju
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ABSTRACT

The energy security and reduction of carbon emissions have accelerated the R&D of the alternative fuels in the transport, heating and power generation sectors in last decade Although the need for dense energy carriers for the aviation industry and other uses is assured in the foreseeable future, there is currently lack of viable renewable alternatives to biofuels for that component of the transport sector. Algal biofuels have many advantageous characteristics that would lower impacts on environmental degradation in comparison to biofuel feedstock and in some cases improve the well-being of developing and developed communities. Algae have a number of characteristics that allow for production concepts which are significantly more sustainable than their alternatives. These include high biomass productivity; an almost 100% fertilizers use efficiency, the possibility of utilizing marginal, infertile land, salt water, waste streams as nutrient supply and combustion gas as CO2 source to generate a wide range of fuel and non-fuel products.

Biodiesel is synthesized from edible, non-edible and waste cooking oil or animal oil can be regarded as an alternative diesel fuel. The various alternative fuel options tried in place of hydrocarbon oils are mainly biogas, producer gas, ethanol, methanol and vegetable oils. The biodiesel could be used as pure fuel or as blend with petro diesel, which is stable in all ratio. Alternative new and renewable fuels have the potential to solve many of the current social problems and concerns, from air pollution and global warming to other environmental improvements and sustainability issues.

Keywords: alternative, generation, advantageous, Biodiesel, comparable, global warming

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REASONS FOR POLLUTION ON EARTH – AN OBSERVATION

[Paper Id –CMER1105]

A Paper Presented by: [1]Dr. J. Pandu Rangarao, [2]Sri. E.V.S. Subrahmanyam
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ABSTRACT

India is producing CEO's for global companies but not producing social activists or environmental activists like Wangari Maathai, nobel peace prize winner in 2004, first African. If the entire globe is occupied by 100 memebers, 2 members hold 50% of world wealth, 50 members are sharing 1% of wealth, 15 are hungry, 16 has no safe drinking water, 39 has no sanitation, 15 members are unable to read. If anybody has food, shelter, cloth, it means you are good than 83%. Indian Government initiated 'Swatcha Bharath Abhiyan" to make ceountry eco-friendly. Government is taking initiatives to reduce pollution, enven after implementation of "Make in India" concept, where there is a possibility of over polution. India amended its constitution in 1976. Article 48(A) of Part IV of the amended constitution, read: The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country. Article 51 A(g) imposed additional environmental mandates on the Indian state. Only two of India's 10 most polluted cities, Delhi and Faridabad, are covered by the government's real-time air quality monitoring system, leaving more than one billion unprepared for toxic episodes, Greenpeace India said on Thursday, asserting that the country's air is now "deadlier" than China. It said that around 88 million Indians - only 7 per cent of the population - live in the 33 cities that have online air pollution monitoring that is available in real time, meaning that less than 10 per cent of India's 380 urban agglomerations are covered. So, 700 billion populations, but one earth, save it.

Keywords: Polution, Environment, biodiversity, sewage.

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AIR POLLUTION

[Paper Id –CMER1106]

A Paper Presented by: A. Annapurna
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ABSTRACT

Air pollution is the introduction of harmful particulates and biological molecules into Earth's atmosphere. It may cause diseases, allergies or death in humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment. Human activity and natural processes can both generate air pollution.
Indoor air pollution and poor urban air quality are listed as two of the world's worst toxic pollution problems in the 2008 Blacksmith Institute World's Worst Polluted Places report.[2] According to the 2014 WHO report, air pollution in 2012 caused the deaths of around 7 million people worldwide,[3] an estimate roughly matched by the International Energy Agency.[4][5] An air pollutant is a substance in the air that can have adverse effects on humans and the ecosystem. The substance can be solid particles, liquid droplets, or gases. A pollutant can be of natural origin or man-made. Pollutants are classified as primary or secondary. Primary pollutants are usually produced from a process, such as ash from a volcanic eruption. Other examples include carbon monoxide gas from motor vehicle exhaust, or the sulfur dioxide released from factories. Secondary pollutants are not emitted directly. Rather, they form in the air when primary pollutants react or interact. Ground level ozone is a prominent example of a secondary pollutant. Some pollutants may be both primary and secondary: they are both emitted directly and formed from other primary pollutants. Air pollution in India is quite a serious issue with the major sources being fuel wood and biomass burning, fuel adulteration, vehicle emission and traffic congestion.[1] In autumn and winter months, large scale crop residue burning in agriculture fields – a low cost alternative to mechanical tilling – is a major source of smoke, smog and particulate pollution.[2][3][4] India has a low per capita emissions of greenhouse gases but the country as a whole is the third largest after China and the United States.[5] A 2013 study on non-smokers has found that Indians have 30% lower lung function compared to Europeans.

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EFFECT OF SILICA COATING ON THE STRUCTURAL AND MAGNETIC PROPERTIES OF THE METAL DOPED CORE-SHELL FERRITES

[Paper Id –PHY1107]

A Paper Presented by: [1]P.S.V.Shanmukhi, [2]Dr.K.Chandramouli,
[3]Dr. Boddeti Govindh, [4]Bhagavathula S Diwakar
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ABSTRACT

Recently, several research groups have explored core-shell technique on different materials and reported novel properties for potential applications[1-8]. Especially, encapsulating the nano particles in nonmagnetic and insulating SiO_2 shell. The core shell technique in $BiFeO_3$ also has been explored by several researchers and intriguing magnetic optical properties are reported. In the present work, we carried out a systematic analysis of silica coated core-shell magnetic ferrites and studied their room temperature magnetic properties and will be presented.

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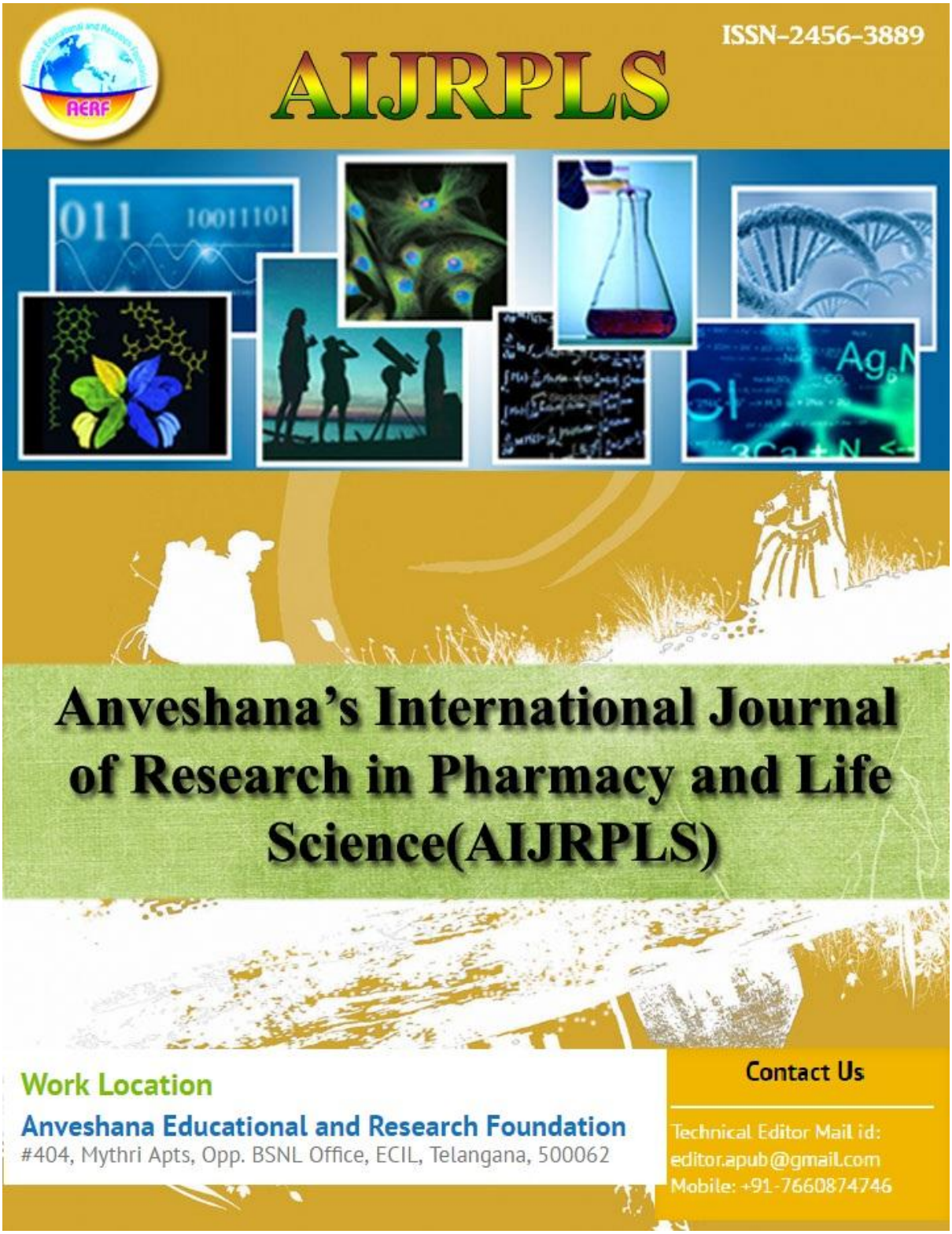

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