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ABSTRACT:
The inner eye of chemistry looks forward to the biology for getting the best output to design a potent drug molecule after crossing the iron gates of pharmacological as well as clinical trials. The basic scientific research in pharmacy is blooming in the impact of the compatibility of designed chemical molecule towards biological molecule. Latest technology in pharmaceutical science reflects the implementation of new methodologies to screen a new chemical entity in a biological system. The inner eye of chemistry looks forward to the biology for getting the best output to design a potent drug molecule after crossing the iron gates of pharmacological as well as clinical trials. The basic scientific research in pharmacy is blooming in the impact of the compatibility of designed chemical molecule towards biological molecule. Latest technology in pharmaceutical science reflects the implementation of new methodologies to screen a new chemical entity in a biological system. A representative problem in bioinformatics is the assembly of high-quality genome sequences from fragmentary "shotgun" DNA sequencing. Other common problems include the study of gene to perform expression profiling using data from microarrays or mass spectrometry. Framing the structural framework of a chemical molecule is first done by in-silico by computational chemistry and that is synthesized by in-situ method. This after synthesis the biological screening is done by both in-vitro and in-vivo studies to enlist as a potent moiety by QSAR. All these newer techniques possess a prefix “In” for in-vitro, in-vivo, in-situ and in-silico which are the In-ner eye of the members of pharmaceutical research.

KEYWORDS: Optimization, Molecular Dynamics, Monte Carlo, Replica exchange method, Quantum mechanics, in-vitro, in-vivo, in-situ, in-papyro and in-silico

RESEARCH ARTICLE

ABSTRACT:
To development of antimicrobial agents a series of chalcones were prepared by condensation of appropriate acetophenones with different aromatic aldehyde in the presence of alkali at 37°C. The synthesized compounds were characterized by IR, NMR spectral studies. The synthesized compounds were evaluated for anti-bacterial activity, and anti-fungal activity. The result had shown that anti-bacterial and anti-fungal activity of Compound containing electron withdrawing group (G2, G4, and G6).

KEYWORDS: chalcone, Aromatic aldehyde, acetophenone, anti-bacterial, anti-fungal

ABSTRACT:
Quantification of active principles through modern analytical tools is essential for establishing the authenticity, creditability, prescription and usage of Ayurvedic medicines/herbal formulations. ‘Trikatu churna’ is one of the oldest and popular Ayurvedic preparations, is official in Ayurvedic formulary of India used widely for disorder of respiratory tract and digestive system. It comprised of the fruits *Piper longum* (Pippali), *Piper nigrum* (Marica) and rhizomes of *Zingiber officianalis* (Saunth). The present study is an attempt to develop the fingerprint method for Trikatu Churna by simple high-performance liquid chromatography (HPLC) determination using Piperine as a standard, which is as an important and major content in formulation. RP- HPLC methods for determination of Piperine from the fruits of Pippali, Marica and Trikatu Churna have been developed. A C 18 LUNA (5 micron 25 cm×4.6 mm) column from Phenomenex in binary gradient mode with mobile phase methanol at flow rate is 1.0ml/min, and effluent was monitored at 342 nm. Validation of the method was done with a view to demonstrate its

selectivity, linearity, precision and accuracy. The concentration of Piperine present in raw material was found to be 4.1%± 0.42w/w in marica, and 2.05% ± 0.39w/w in pippali respectively and in three identical laboratory batch of Trikatu Churna name TK-I, TK-II, TK-III, was 2.02%±0.61, 2.23%±0.49, 2.21%±0.53w/w respectively with mean value 2.15%±0.54w/w. The Piperine content of all the three batches is found to be in close proximities with each other. Obtained results were compared with marketed formulations.

KEYWORDS: Piperine, Trikatu Churna, HPLC, Ayurvedic Formulation, Fingerprinting.

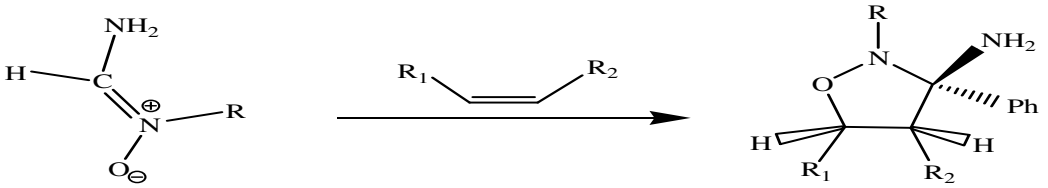
Synthesis and Characterization of Copper (II), Nickel (II) Cobalt (II) and Fe (III) Complexes of Tetradentate Binucleating Schiff Base Ligands

ABSTRACT:
Copper (II),Nickel (II), Cobalt (II) and Fe (III) Complexes of 4,4'-bis (2-Hydroxy acetophenolimine)-3,3'-disubstituted diphenyl methane and 5,5'-methylene/dithio bis (salicylaldehyde) Hexane-1,6-diamine have been synthesized and characterized by magnetic moment data, electronic and IR spectral measurements. The Molar conductivities show that the complexes are nonelectrolytes.The I.R spectra suggest that the ligands are bidentate in all cases, while the electronic spectra together with magnetic moment data suggest octahedral geometry for all the complexes. In all these complexes, the coordinating sites are azomethine nitrogen and phenoxy oxygen.

KEYWORDS: Copper (II), Nickel (II), Cobalt (II) and Fe (III) Complexes, Schiff bases

Green synthesis of nitrone and isoxazolidines: A convenient method of synthesis in water

ABSTRACT:
Novel *C,N*-diphenyl-α-amino nitrone has been synthesized in water and 1,3 dipolar cycloaddition reaction of the nitrone has been studied with maleimides in water. Significant rate acceleration and high yield of these reactions are observed in water compared with organic solvents. The structures of all the compounds have been established on the basis of spectral and analytical data.



1

R = Ph

2 - 4

KEYWORDS: *C,N*-diphenyl-α-amino nitrone, cycloaddition reaction, aqueous phase.

Kinetics of Ozone Induced Decolorization of Effluents of Pulp and Paper Industry

ABSTRACT:
Ozone, a potential oxidant has become the most important innovation for ultimate treatment of all types of organic / inorganic impurities in water and waste water by oxidation process. It can be safely and effectively used for the decolorization of effluents from pulp and paper industry. Kinetics of decolorization of post oxygen stage effluent of pulp and paper industry using bamboo and hardwood (20: 80) as furnish has been studied at temperature range 25-50oC using laboratory generated ozone. The ozonization reactions follow a first order disappearance of color and the first order rate constant increases with increase in ozone concentration. An attempt has been made to study the the impact of pH, temperature, catalyst and ionic strength on the kinetics of ozone induced decolorization of paper industry effluents.

KEYWORDS: Effluent, Ozone, Kinetic study, Catalyst, Decolorization.

ABSTRACT:
A series of substituted aromatic formazans were synthesized and evaluated for antimicrobial activities. All the structures of newly synthesized compounds were confirmed by their IR, ^{1}HNMR and LC-MS analysis. Newly synthesized substituted aromatic formazans have shown promising antimicrobial activities when they were screened.

KEYWORDS: Schiff's base, diazonium chloride, antimicrobial activity, formazan.

ABSTRACT:
A new simple, sensitive and precise high performance thin layer chromatographic method has been developed for estimation of Ziprasidone in capsule dosage form. In this method pre coated silica gel 60 GF 254 TLC plate was used as stationary phase and the chromatogram was developed using Toluene: methanol (80:20) (v/v) as mobile phase. Ziprasidone showed Rf values at 0.41 ± 0.2. The plate was scanned at 190-360nm and quantified at nm using Camag TLC Scanner. The linear concentration 400 – 2200 ng / band for ziprasidone. The percentage recovery for Ziprasidone was found to be 99.63%. The limit of detection and limit of quantitation was 6.65 ng/band, 20.14 ng/ band for Ziprasidone respectively. The method is validated as per ICH guidelines.

KEYWORDS: Ziprasodone, HPTLC

ABSTRACT:
Amperometric determination of Mn(II), Mn(VII), Cr(III) and Cr(VI) was carried out successfully with the help of thioglycolic acid (TGA) at d.m.e. in 0.1 M NaOH [for Mn(II) and Mn(VII)], 0.1 M KCl [for Cr(III)] and acetate buffer having pH-4.99 [for Cr(VI)] medium. Metal ions solutions were employed as titrant in all the cases (anodic titrations). Titrations of Mn(VII) and Cr(VI) solutions using acid as titrant (cathodic titrations) were also performed successfully. Metal species – TGA molar stoichiometric ratio of 1:2 for Mn(II) and 1:1 for Mn(VII), Cr(III) and 3.32:1 for Cr(VI) have been obtained when respective metal ions were employed as titrant (anodic titrations). 2:1 titrimetric molar ratio for Mn(VII) and 1:3.32 for Cr(VI) have been obtained using TGA as titrant (cathodic titrations). Solutions as dilute as 5.49 ppm Mn(II), 2.74 ppm Mn(VII), 5.20 ppm Cr(III) and 0.52 ppm Cr(VI) were estimated with high degree of accuracy. Tolerance limit for foreign ions has also been worked out.

KEYWORDS: Amperometry, thioglycolic acid, Mn(II), Mn(VII), Cr(III), Cr(VI).

ABSTRACT:
The inhibition effect of *Ocimum tenuiflorum* extract on the corrosion of mild steel in 2M Sulphuric acid has been studied at different temperature as well as concentrations of inhibitor by mass loss studies. The inhibition efficiency is markedly higher in H_2SO_4 environment with addition of *Ocimum tenuiflorum* extract compared with those in the inhibitor free solution. The inhibition efficiency increased with increase of inhibitor concentration but decreased with increase in temperature and exposure time. Adsorption of *Ocimum tenuiflorum* extract on mild steel is found to obey Langmuir, Temkin, Flory-Huggins and Frumkin adsorption isotherm. The characterization of corrosion product on mild steel in the presence of inhibitor is analyzed by UV, IR, and XRD.

KEYWORDS: Corrosion inhibition, mild steel, mass loss, *Ocimum tenuiflorum.*

ABSTRACT:
Smyrnium olusatrum is an aromatic, antiscorbutic herb. This Work has just given in value this herb for its antioxidant properties. The analysis by GC and NMR of carbon-13 separated and highlighted furanodiene/furanoelemene like majority compounds (46%). Oil rich on sesquiterpenes has in vitro the faculty to reduce free radical 2.2'diphenylpicrylhydrazyl thus showing an antioxidant property other that related to the ascorbic acid whose plant is a notable source in this vitamin.

KEYWORDS: *Smyrnium olusatrum*, essential oil, antioxidant activity, NMR ^{13} C

ABSTRACT:
Recently a series of 5-(4-(phenylamino)phenyl)-1,3,4-thiadiazol-2-amine derivatives were synthesized and their pharmacologically evaluated for antifungal activity. The purpose of this study was to evaluate the effects of the title compounds on fungal activity by varying the substituted in the1,3,4- thiadiazole moiety. All compounds of this series showed promising antifungal activity. It was found that some of these compounds possess marked antifungal properties comparable in efficiency to the reference drug Flukanazole. In present study the structures of compounds were confirmed by IR, UV ^{1}H NMR and elemental analysis.

KEYWORDS: 4-(phenylamino)benzoicacid; 5-(4-(phenylamino)phenyl)-1,3,4-thiadiazol-2-amine derivatives; fungicide; *C. albican, A. niger* and IR, UV ^{1}H NMR spectroscopy.

ABSTRACT:
A high performance liquid chromatographic method has been proposed for the simultaneous determination of ciprofloxacin hydrochloride and ornidazole in pure and dosage form. The HPLC instrument of Agilent technologies (Agilent 1120 LC Germany) model was used where the drug was chromatographed on a C-18 Zorabax column (4.6mm x 250mm) using a mixture of acetonitrile and water (Millipore Q, pH 3.0 adjusted with O-phosphoric acid) in the ratio of (45:55v/v) as the mobile phase at a flow rate of 1ml/min and the detection was done at 299nm (isobestic point). The retention time for ciprofloxacin HCL and ornidazole were 1.96 and 4.33 min respectively. The calibration curves were found to be linear in the range of 12 to 20 µg/ml with a correlation coefficient of 0.9998 and 0.9997 respectively. The results of analysis have been validated statistically and by recovery studies. The percentage recovery was obtained for ciprofloxacin HCL and ornidazole of 99.86 to 100.14% and 100.40 to100.53% respectively. The simplicity and accuracy of the proposed method ensures its use in routine quality control analysis of pharmaceutical formulations.

KEYWORDS: ciprofloxacin, ornidazole, RP-HPLC, Analytical method development, Validation.

ABSTRACT:
In the present study we have synthesized N-substituted imidazoles following a novel N-alkylation method using domestic microwave oven. Tetra substituted imidazoles are synthesized following two step method where tri-substituted imidazoles are synthesized in the first step followed by by N-alkylation of the synthesized compounds.

These reactions present noteworthy advantages over those carried out by employing conventional heating. This method is efficient, clean and economical and the compounds synthesized showed good yield, purity and shorter reaction times. The synthesized compounds showed good anti-inflammatory activity when given orally.

KEYWORDS: N-Alkylation, Imidazoles, Antiinflammatory, Tetrasubstituted

ABSTRACT:
The inevitable consequence of the widespread use of antimicrobial agents has been the emergence of antibiotic-resistant pathogens, fueling an ever-increasing need for new drugs. In an effort to develop antimicrobial agents, a series of chalcones were prepared by Claisen-Schmidt condensation of bromo and chloro acetophenone with appropriate aromatic aldehydes in the presence of aqueous solution of sodium hydroxide and ethanol at room temperature. The synthesized compounds were characterized by their physical constants, TLC and IR spectroscopy. Further all the synthesized compounds were successfully evaluated for their antibacterial and antifungal activities by cup-plate method.

KEYWORDS: Chalcone, Claisen-Schmidt condensation, Antimicrobial activity, Styryl ketone

ABSTRACT:
A simple UV- Spectrophotometric method has been developed for simultaneous estimation of Amoxycillin Trihydrate and Dicloxacillin Sodium from Pharmaceutical dosage forms. Methanol**:** water (1:1) was used as solvent. The method involves the measurement of absorbance at two wavelengths 290 nm (λmax for Amoxycillin) and 274nm (λmax for Dicloxacillin). The linearity lies between 2-10µg/ml for Amoxycillin and10-50 µg/ml for Dicloxacillin. The accuracy and precision of the methods were determined and validated statiscally. The method showed good reproducibility and recovered with %RSD less than 2. The method are found to be rapid, specific, precise and accurate and can be successfully applied for the routine analysis of simultaneous estimation of Amoxycilin and Dicloxacillin in bulk and combined dosage form.

KEYWORDS: Simultaneous, UV-Spectrophotometric, Amoxycilin, Dicloxacillin.

ABSTRACT:
Two simple and sensitive visible spectrophotometric methods have been developed for the estimation of Tolperisone in pure and pharmaceutical dosage forms. Method A is based on co-ordinate complex formation between the drug and cobalt thiocynate (630 nm) and method B is based on charge transfer complex formation between drug and 2,3 di-chloro-5-6-dicyano 1-4,benzoquinone (DDQ 430 nm) .The absorbance are measured against the corresponding reagent blanks. The methods have been statistically evaluated and found to be precise and accurate.

KEYWORDS: Spectrophotometry, Tolperisone.

ABSTRACT:
This work studies the characterization of carbon steel surfaces and corrosion products powder formed on it after corrosion in stirred sour brine medium at 25^{o}C. The experimental method used was x-ray photoelectron spectroscopy (XPS). The shape of each peak and the BE have been used (with appropriate sensitivity factors) to determine the composition of the surface and the composition of the powder formed after corrosion. The main compound found on the surface was $FeCO_3$. The presence of FeS in the corrosion products powder and the lack of this component on the carbon steel surface confirm that $FeCO_3$ has been formed prior to FeS formation.

KEYWORDS:

ABSTRACT:
Two accurate, precise, rapid and cost effective methods were developed for the estimation of Ezetimibe in bulk drug and tablet dosage form. Wavelengths selected for quantitation were 233 nm in Methanol and 243 nm in 0.5 M NaOH respectively. In method-I (methanol) linearity for detector response was observed in the concentration range of 2-40 µg/ml and in method-II (0.5 M sodium hydroxide) linearity for detector response was observed in the concentration range of 2-30 µg/ml. The results of the analysis have been validated statistically. The method has been successfully applied in the analysis of marketed formulations.

KEYWORDS: Spectrophotometric analysis, Ezetimibe

ABSTRACT:
A simple and precise RP-HPLC method was developed and validated for the determination of clopidogrel bisulphate in pharmaceutical dosage forms. Chromatography was carried out using Inertsil ODS-3 column with 250x4.6mm i.d, and having 5µ particle size was used. Acetonitrile:0.05%Formicacid (80:20) as the mobile phase at a flow rate 1.2 ml/min. The analyte was monitored using UV detector at 240 nm. The Retention time of the drug was 6.4min for clopidogrel bisulphate. The proposed method was found to have linearity in the concentration range of 7.5– 17.5 µg/ml. The developed method has been statistically validated and found simple and accurate in bulk and dosage forms.

KEYWORDS: clopidogrel bisulphate, RP-HPLC.

ABSTRACT:
A series of 4-(substituted benzylidene)-1-(5-phenyl-1,3,4-thiadiazol-2-yl)-2-phenyl -1H-imidazol-5(4H)-ones were synthesized by condensation of 4-benzylidene-2-phenyl-oxazol-5-one with 2-amino-5-phenyl-1,3,4-thiadiazoles in presence of sodium acetate in glacial acetic acid. The intermediate 4-benzylidene-2-phenyl-oxazol-5-ones were prepared by condensing benzaldehydes with benzoyl glycine in presence of acetic anhydride and sodium acetate. The chemical structures of synthesized compounds were confirmed by means of IR, ^{1}H NMR. All the compounds **(10-18)** were screened for antibacterial and antioxidant activities. Among all, the compounds **12, 16** exhibited highest antibacterial activity against all the four strains. Compound **12** exhibited highest nitric oxide scavenging activity and most of these compounds showed significant DPPH scavenging activity.

KEYWORDS: Imidazolone, antibacterial activity, antioxidant activity**.**

ABSTRACT:
Models for predicting solubility of drugs in solvent mixtures have an important practical application in drug formulation. Solvent mixtures are widely used in pharmacy, and theoretical and semiempirical approaches save experiments that are often expensive and time-consuming. The study of solubility behaviour of satranidazole in solvent blends and individual solvents ranging from non-polar to highly polar is essential. The total solubility parameter explains the interactions of the drug between solute and solvent. The solutions containing excess drug

were shaken in a water bath for 72 h at 25°C. The solutions attained equilibrium were then filtered and analyzed for drug content. The Extended Hildebrand Solubility Approach was used to process the solubility data of satranidazole. For understanding the solute-solvent interactions, total solubility parameter concept was utilized. A multiple regression method using the Extended Hildebrand Solubility Parameter Approach was applied to verify the solubility's of satranidazole in pure polar solvents. Fedors group contribution method was used to calculate the solubility parameter of satranidazole and to support the results obtained from Extended Hildebrand Theory. The method has potential usefulness in preformulation and formulation studies during which solubility prediction is important for drug design.

KEYWORDS: Satranidazole; Solubility parameter; Fedors group contribution method; Extended hildebrand approach.

HPTLC Finger Print of Ethyl Acetate Extract of *Samanea saman* (Jacq.) Merr.

ABSTRACT:
The simple and reproducible high-performance thin-layer chromatographic method was used for the finger print study of ethyl acetate extract and dichloromethane fractionate of *Samanea saman* (Jacq.)Merr. Phytochemical examination of the extracts and fractionates revealed presence of significant phyto constituents. The study shows that HPTLC can be successfully used in the qualitative and quantitative determination of compounds in plant extracts. The phytochemical importance of the extracts of *Samanea saman* is also evident from the results.

KEYWORDS: *Samanea saman*(Jacq.)Merr, HPTLC, Phytochemical screening.

Application of Oxidants to the Spectrophotometric Determination of Cephalosporins (Cefditoren Pivoxil and Cefdinir) In Formulations

ABSTRACT:
Three new spectrophotometric methods (A, B and C) for the determination of Cephalosporins (Cefditoren Pivoxil and Cefdinir) have been proposed. These methods are based on the oxidation of the drug with Fe (III) and the estimation of Fe (II) produced after chelation with either 1,10- Phenanthroline or 2,2'-Bipyridyl or Potassium Ferricyanide at 510, 525, 730 nm (for Cefditoren Pivoxil) and at 512, 510, 700 nm (for Cefdinir). The Beer's law was obeyed in the concentration range of 4-20, 4-20, 2-10 µg/ml (for Cefditoren Pivoxil) and 2-8, 8-24, 4-12µg/ml (for Cefdinir) for methods A, B and C respectively. Thus results of the proposed methods were validated statistically and applied successfully to the determination of Cefditoren Pivoxil and Cefdinir in bulk and its pharmaceutical formulations without any interference from excipients.

KEYWORDS: Spectrophotometry, Cefditoren Pivoxil, Cefdinir, oxidation

Development of New Spectrophotometric Methods for Quantitative Determination of 7-ADCA in Pharmaceutical Formulations

ABSTRACT:
Three simple, sensitive and accurate methods are described for the determination of 7-Amino deacetoxy cephalosporanic acid (7-ADCA) in bulk drug and in formulations. Methods M_a to M_c are based on redox/charge transfer reaction (M_{aandb}) and Redox reaction (M_c) between 7-ADCA and N-Bromosuccinamide/p-N-methyl aminophenol and p-Sulphanilic acid (NBS/PMAP/SAc) (M_a), Haematoxylin /Chloramine T (Hae/CAT)(M_b) and NBS/ Celestine blue (NBS/CB) (M_c) solutions. The chromogen being extractable with chloroform could be measured quantitatively at 560 (M_a) 630 (M_b) and 520 nm (M_c). All variables were studied to optimize the reaction conditions. Regression analysis of Beer's Law plot showed good correlation in the concentration ranges 4-24 for M_a, 8-48 for M_b and 8-48 µg/ml for M_c. The calculated molar absorptivity values are 7.205 x 10^3, 5.404 x 10^3, and 2.899 x 10^3 l/mol/cm for M_a to M_c, respectively. The methods were successfully applied to the determination of 7-ADCA in formulations and the results tallied well with the label claim. The results were statistically compared with those of a literature method by applying the student's t-test and F-test. No interference was observed from the concomitant

substances normally added to preparations. The accuracy and validity of the methods were further ascertained by performing recovery experiments *via* standard-addition method.

KEYWORDS: 7-Amino deacetoxy cephalosporanic acid, Redox, Charge transfer reactions, spectrophotometric methods, statistical analysis, recovery studies

Synthesis, Analgesic and Anti-Inflammatory Activities of Novel Schiff Bases of 2-Amino-5-Aryl-1, 3, 4-Thiadiazole

ABSTRACT:
Schiff Bases of 2-amino-5-aryl-1, 3, 4-thiadiazole derivatives have been synthesized with different aromatic aldehyde. 1, 3, 4-thiadiazole derivatives were prepared by the reaction of thiosemicarbazide, sodium acetate and aromatic aldehyde. The structures of the titled Schiff bases were elucidated by IR and 1H NMR spectral measurements. All the compounds were evaluated for their analgesic activity against Swiss albino mice, anti-inflammatory activity against Wister albino rats.

KEYWORDS: Schiff base, 1, 3, 4-thiadiazole, Analgesic, Anti-inflammatory activity.

Derivative Spectrophotometric Determination of Molybdenum (VI) using Diacetyl Monoxime Isonicotinoyl Hydrazone (DMIH)

ABSTRACT:
Molybdenum (VI) forms a greenish Yellow Coloured water soluble complex with Diacetyl Monoxime Isonicotinoylhydrazone(DMIH) reagent in acidic buffer P^H 5.0 with λ_{max} at 346 nm. The molar absorptivity and sandell's sensitivity are 1.93 X 10^4 L.mol $^{-1}$.cm $^{-1}$ and 0.00259067 µg / cm ^{2} respectively. The Beer's law validity range is 0.48 to 5.76 µg / ml. The optimum concentration range is 0.96 – 4.8 µg / ml. Molybdenum (VI) forms (M:L) 1:1 complex with DMIH and stability constant of the complex is 4.731 X 10^6 .The derivative spectrophotometric determination of Mo(VI) was carried out by measuring peak height method. The developed derivative spectrophotometric method was employed for the determination of Molybdenum (VI) in synthetic samples of alloy samples. The effect of various diverse ions was also studied.

KEYWORDS: Diacetyl Mmonoxime Isonicotinoylhydrozone(DMIH), Derivative spectrophotometry, Molybdenum (VI)

Synthesis of Biphenylamine Derivatives via Suzuki Coupling Reaction

ABSTRACT:
The biphenyl amine derivatives has been prepared via suzuki coupling, oxidation of sulfide to sulfonyl and reductive amination. The palladium tetrakistriphenylphosphine was used as a catalyst in suzuki coupling. The sodium periodate and sodium triacetoxyborohydride are used as reagent in oxidation and reductive amination reactions. The intermediates are confirmed by corresponding functional peak in IR spectrum and characterization of final product were done with help of IR, ^{1}H NMR and mass spectral data.

KEY WORDS: Suzuki coupling, Pd (0) complex, IR, NMR and Mass

Green Synthesis of Isoxazolidines: One Pot Facile Cycloaddition Reactions of Novel *N*-Phenyl-α-Amino Nitrone in Water

ABSTRACT:
Novel *N*-phenyl-α-amino nitrone has been synthesized from formamide and one pot facile 1,3-Dipolar cycloaddition reactions of the nitrone have been studied in water at room temperature in the stereoselective synthesis of novel isoxazolidine derivatives. Significant rate acceleration, changes in stereoselectivity and high yield of these reactions are observed in water compared to organic solvents.

KEYWORDS: *N*-phenyl-α-amino nitrone, cycloaddition reaction, stereoselectivity, aqueous phase

ABSTRACT:
The oxidation-reduction of various ketones to alcohols and vice versa has so far been brought about by different chemical reagents (catalysts) which many a times specially synthesized for accomplishing selectivity in the reaction as well as to enhance the rate of reaction and further to bring about substantial improvement in the yield. However, there are limitations to these kind of initiatives e.g. reduction of Acetophenone in presence of Sodium Borohydride yields hardly about 47.3% of (*S*)-1-phenylethanol. However, these days efforts are underway to evolve at reagents which are more and more eco-friendly or green, and use of for instance enzymes derived from plants is gaining momentum and has a comparative advantage too over earlier initiatives which make use of catalysts which are not eco-friendly. Use of enzyme like D. Carota extracted from Carrot in this case to bring about oxidation-reduction of ketone/s is instrumental in enhancing the rate of reaction under the influence of sonic waves as well as hike in yield of reaction against conventional methods. The initiative in this case is a green one. Apart from Ketones, oxidation-reduction of β-ketoesters, cyclic ketones, azido ketones, open chain ketones like 2-butanone, 2-pentanone, etc. can also be brought about on similar lines with similar kind of effects using D. Carota enzyme.
The oxidation-reduction is brought about by sonication and further kinetics of the reaction is constantly monitored using UV-Vis spectrophotometry at 200, 270 nm in particular variation in absorbance with depletion in concentration of Ketone/s, attributed to $\pi \rightarrow \pi$ transition due to –C=O group and Benzene band due to presence of Aromatic ring resply.

KEYWORDS: Oxidation-reduction, Enzyme, Sonication, Ketones, Spectrophotometry

ABSTRACT:
Endophytic bacteria flora were isolated from roots ,stems and leaves of selected five medicinal plants .A total of about twenty three different endophytic bacteria were obtained ,majority of isolates were Gram positive in character and each of them was positive for at least one enzyme activity except HBRC4 and HBRC5 from rhizomes of *Curcuma longa*. About twelve isolates were positive for antifungal activity, three for antibacterial and six for antioxidation activity. Endophytic bacteria NBEL6 from roots of *Eucalyptus globules* was strong entrant as per catalase, antibacterial and antifungal activities were concerned. Majority of dynamic endophytic bacterial flora were from roots samples of medicinal plants.

KEYWORDS: Medicinal plants, Endophytic bacteria, Enzyme activity, Antimicrobial activity,

ABSTRACT:
In the development of organic therapeutic agents, pharmaceutical scientists have explored numerous approaches in finding and developing organic compounds that is now available to us in dosage forms for the treat diseases and often for the maintenance of good health. The present work deals with synthesis of some new isoxazole and Pyrazole derivatives which obtained by reaction takes place between the chemicals hydroxyl amine hydrochloride and hydrazine hydrate with synthesized Chalcones (by Claisen-Schmidt condensation) in a refluxing ethanolic medium in alkali condition. The structures for the synthesized compounds are established by FT-IR, ^{1}H NMR and elemental analysis later all compounds were evaluated for antimicrobial activity by zone of inhibition. Significant to moderate results are obtained from the compounds.

KEYWORDS: Isoxazole, Pyrazole, Chalcones and antimicrobial activity

ABSTRACT:
The objective of the study is to develop a reversed phase high performance liquid chromatographic method using ultra violet detection for the determination of Dobutamine HCl in bulk and pharmaceutical dosage forms. Phenomenex Luna C_{18} column (250 mm x 4.6 mm, 5 µ) was used as the stationary phase with a mixture of Acetonitrile:Methanol:Tetrahydrofuran (70:20:10 v/v/v) as the mobile phase. The response of the drug was linear in the concentration range of 10-30 µg/ml. Limit of detection and Limit of Quantification were found to be 0.34 and 1.1 µg/ml, respectively. The percentage recovery ranged between 99.54 and 100.06%. The factors affecting column separation of the analyte were studied. The results demonstrated that this method is reliable, reproducible and suitable for routine analysis.

KEYWORDS: Dobutamine HCl, High Performance Liquid Chromatography, Validation.

ABSTRACT:
Evaluating acetyl-CoA carboxylase (ACC) as the target enzyme for the treatment of hyperlipidemia can lead to the detection of new inhibitors that can potentially be optimized as lipid lowering agents and could also form a novel method of screening a large number of plant constituents. Inhibition of ACC2 may prevent lipid-induced insulin resistance and type 2 diabetes, making the enzyme an attractive pharmaceutical target. The crystal structures of the biotin carboxylase (BC) domain of human ACC2 (PDB ID: 3GLK) and carboxyl transferase (CT) domain of human ACC2 (PDB ID: 3FF6) have been selected for molecular targets for Insilico studies of some potent phytochemicals like hydroxycitric acid, terrestrosin, forskolin and EGC. The interactions between the compounds and crystal structures of the enzymes have been performed using Accelrys Discovery Studio 2.1 Ligandfit protocol. Findings from the docking procedure indicate different binding modes of the compounds , further more the studies reveal that EGC was found to be a ideal inhibitor for both ACC2 Domains, thus can be suggested as a better inhibitor for lipid lowering .

KEYWORDS: Phytochemicals; Inhibitory profiles; ACC domains

ABSTRACT:
A sensitive and simple spectrophotometric method was developed for the determination of Chromium(VI) with Isonitriso p-isopropyl Acetophenone Phenyl Hydrazone. Chromium was complexed with Isonitriso p-isopropyl Acetophenone Phenyl Hydrazone. and the reddish yellow colour complex was extracted into methyl isobutyl ketone. The absorbance of the complex was maximum at 443 nm. The molar absorptivity of the complex was 2.78 x 10^3lit.mol^{-1}.cm^{-1} and Sandell's sensitivity was 2.67 x 10^{-2} µg/cm^2. The system obeyed Beer's law over the concentration range of 0.5 to 20 ppm. The composition of the complex (metal: ligand) was 1:6. This method was employed for the determination of chromium in Goa Beans and Soya Leaves Sample

KEYWORDS: extraction, spectrophotometric, Chromium, Isonitriso p-isopropyl Acetophenone Phenyl Hydrazone

ABSTRACT:
The derivatives of 3-(4-phthalimidophenyl)-5-(substituted-phenyl)-4-isoxazoline were synthesized, which were screened for their analgesic and anti-inflammatory activity in test animals. The analgesic activity of all compounds were found to be higher than their anti-inflammatory activity, Compounds **3b, 3e, 3h** and **3l** were found to be more active among the synthesized compounds.

KEYWORDS: Thalidomide, Isoxazoline, Anti-inflammatory, Hydroxylamine hydrochloride

ABSTRACT:
Cardanol, a major ingredient of Cashew Nut Shell Liquid (>87%) is a long chain meta-substituted phenol. It reacts with furfural in different mole ratios in the presence of dicarboxylic acid as catalyst to give novolac resin. The characterized cardanol-furfural resin can be properly modified to a high molecular weight hydroxyalkylated derivative, a nucleophilic compound (polyol) through epoxidation followed by hydrolysis.Polyurethanes were formulated by reaction of the hydroxylalkylated cardanol-furfural resin with the commercially available polyol, polypropylene glycol-1200(PPG-1200) and 4, 4'- Diphenylmethane diisocyanate/Toluene diisocyanate. These polyurethanes were characterized with respect to their resistance to chemical reagents and mechanical properties such as tensile strength, percentage of elongation and hardness. Thermal properties were characterized by Thermo gravimetric Analysis (TGA).

KEYWORDS: cardanol, polyurethane, tensile strength, thermal properties.

ABSTRACT:
A variety of 2-amino-4-(3'-methyl-4'-hydroxyphenyl)-6-(substituted) pyrimidines were synthesized by reacting various chalcones with guanidine hydrochloride. The required chalcones were prepared by condensation of 3'-methyl-4'-hydroxyacetophenone with various substituted aromatic / heteroaromatic aldehydes in the presence of alkali. All these compounds were characterized by IR, 1H NMR and Elemental analysis. The newly synthesized compounds were evaluated for their antimicrobial activity and some of them have shown significant activity when compared with the standard.

KEYWORDS: Pyrimidines, Synthesis, Antimicrobial activity.

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