PHONE: 08415-200326, 040-27037328
CELL: 9000611217

PRINCETON COLLEGE OF PHARMACY

(Affiliated to JNTUH & Approved by AICTE, PCI, New Delhi)
Chowdaryguda, Korremula (V), Ghatkesar (M), Medchal (Dist.)-500 088

Proceedings of Innovative Research in Engineering, Applied Science and Management

March 10-12, 2020

ISBN: 978-93-88746-31-1

PRINCETONCOLLEGE OF PHARMACY

Chowdariguda (V), Korremula, Ghatkesar (M), Medchal (D), TS- 500088.

(Affiliated to JNTUH, Hyderabad & Approved by PCI, New Delhi)

INDEX TABLE

PRINCIPAL
Princeton College of Pharmacy,
Korremula Vill, Vijayapuri Colony,
Ghatkesar Mdl,Medchal Dist ,Telangana.

15	Phytochemical constituents and pharmacological properties of Garciniaxanthochymus- a review	G.S.Priyanka	8
16	Qualitative phytochemical analysis of Allium sativum (Garlic) and Curcuma longa (Turmeric)	KurmaKirankumar	9
17	Pharmacognostical and phytochemical analysis of Solanummacranthum (Dunal) Fruits	SunithaChintala	9
18	Bioactivities of phytochemicals present in tomato	KokkulaSatyanarayana	10
19	Validated RP-HPLC Method for the Estimation of Esomeprazole Enteric Coated Tablets	UpputuriSrikanth	10
20	Development and validation of a UPLC method for the determination of duloxetine hydrochloride residues on pharmaceutical manufacturing equipment surfaces	Sridhar Chilakani	11
21	Development and Validation of RP-HPLC Method for the Estimation of Clopidogrel Bisulphate	Hari Prasad Kadiyam	11
22	Phytochemical analysis of crude extract and carotenoid pigments from fruits, vegetables and flowers	RoopaniMadhu	12
23	Development and Validation of Spectrophotometric Methods for Quantitative Estimation of PramipexoleDihydrochloride in bulk and Pharmaceutical Dosage Form	KadasiSundeep	12
24	Development and Validation of Rasagiline Tartrate in Tablets by using Liquid Chromatography	KornaDevamani	13
25	Development and validation of a high-performance liquid chromatographic method for determination of eprosartan in bulk drug and tablets	B.Shivakumar	13
26	Determination of eprosartanmesylate and hydrochlorothiazide in tablets by derivative spectrophotometric and high-performance liquid chromatographic methods.	SanguJyothi	14
27	Formulation and Evaluation of Rapid Dissolving Oral Thin Films of Cetirizine	KurmaKirankumar	14

PRINCIPAL
Princeton College of Pharmacy,
Korremula Vill, Vijayapuri Colony,
Ghatkesar Mdl,Medchal Dist ,Telangana.

	Hydrochloride		
28	Formulation and evaluation of mucoadhesive buccal tablets of aceclofenac	HariprasadKadiyam	15
29	Development and validation of RP-HPLC method for determination of carvedilol in bulk and pharmaceutical dosage forms	Viyyapu Ramesh Naidu	16
30	RP-HPLC Assay Method Development and Validation of Beclomethasone Dipropionate in Metered Dose Inhaler- A Research	SumalathaReddi	16
31	Formulation and evaluation of polyherbal hair gel formulation	JyothisriSamanthakurthi	17
32	Design, development and evaluation of novel nanoemulsion formulations for transdermal potential of celecoxib	SarithaRasala	17
33	Formulation and evaluation of Ketoconazole niosomal gel drug delivery system	ThanduRajini	18
34	Absolute oral versus inhaled bioavailability: significance for inhaled drugs with special reference to inhaled glucocorticoids.	Jakkulaasrikanth	18
35	Development and Validation of Rp-Hplc Method for Phenytoin Sodium and Phenobarbitone in Bulk and Pharmaceutical Dosage Form	RoopaniMadhu	19
36	Carvedilol-loaded mucoadhesivebuccal tablets: influence of various mucoadhesive polymers on drug release behaviour	Shivakumarmiryala	19
37	Formulation and Evaluation of Diclofenac Sodium Matrix Tablets Based on Tamarindus indica Seed Mucilage	G.S.Priyanka	20
38	Formulation and Evaluation of Polyherbal Vanishing Cream	SagarGattuvelli	21
39	Flavonoid compounds and antibacterial mechanisms of different parts of white guava (Psidiumguajava L. cv. Pearl)- A Review	Malothusuresh	21

PRINCIPAL
Princeton College of Pharmacy,
Korremula Vill, Vijayapuri Colony,
Ghatkesar Mdl,Medchal Dist ,Telangana.

40	Identification of new phytoconstituents and antimicrobial activity in stem bark of Mangiferaindica (L.)	KasireddySwetha Reddy	22
41	Health effects and bioavailability of dietary flavonols	BoggulaRatnakumari	22
42	Absorption, metabolism and health effects of dietary flavonoids in man	KokkulaSatyanarayana	23
43	Method Validation and Estimation of Anagrelide Hydrochloride in Pharmaceutical Dosage by RP-HPLC Method	Sridhar Chilakani	24
44	Chemical Constituents and Pharmacological Activities of Garlic (Allium sativum L.): A Review	KokkulaSatyanarayana	24
45	A review on the Antimicrobial and Antioxidant Activity of Custard Apple (Annonareticulata) Peel Extracts	KasireddySwetha Reddy	25
46	Development And Validation Of RP-HPLC Method for Estimation of Anagrelide Hydrochloride in Pharmaceutical Dosage Forms.	UjjwalaKonduru	25
47	Phytochemical analysis and Antioxidant Evaluation of Lemon Grass (Cymbopogoncitratus DC.) Stapf Leaves – A Review	SanguJyothi	26
48	Preliminary Phytochemical Analysis and Estimation of Total Phenol Content in Carrot Extract	KokkulaSatyanarayana	26
49	Development and Validation of RP-HPLC Method for the Analysis of Carbimazole in Bulk and Marketed Formulation	Miss Hema	27
50	Simultaneous Development and Validation of Hptlc Method for Determination of Zonisamide and Cilostazol	Viyyapu Ramesh Naidu	27
51	Mucoadhesive GelatinBuccal Films with Propranolol Hydrochloride: Evaluation of Mechanical, Mucoadhesive, and Biopharmaceutical Properties	UjjwalaKonduru	28
52	Flavosomes, novel deformable liposomes for the co-delivery of anti-inflammatory compounds to skin	HarikiranLingabathula	28

PRINCIPAL
Princeton College of Pharmacy,
Korremula Vill, Vijayapuri Colony,
Ghatkesar Mdl,Medchal Dist ,Telangana.

53	Non-Steroidal Anti-Inflammatory Drugs Loaded Liposomes for Topical Treatment of Inflammatory and Degenerative Conditions	Banuvari Sandeep	29
54	Design and Evaluation of Controlled Release Matrix Tablet of Aspirin by Using Hydrophobic Polymer	Zareena Begum shaik	30
55	Preparation, evaluation and hair growth stimulating activity of herbal hair oil	PashamAnusha	31
56	Formulation and evaluation of a vitamin C multiple emulsion	Malothusuresh	32
57	Development of Clotrimazole Multiple W/O/W Emulsions as Vehicles for Drug Delivery: Effects of Additives on Emulsion Stability	RabiaSadaf	33
58	Recent advancements in liposome technology	Jakkulaasrikanth	34
59	Formulation and Evaluation of Polyherbal Cold Cream	Bhargavi	35

PRINCIPAL
Princeton College of Pharmacy,
Korremula Vill, Vijayapuri Colony,
Ghatkesar Mdl,Medchal Dist ,Telangana.

A REVIEW ON DIABETES AND ITS TREATMENT

ShivakumarMiryala
Princeton College of Pharmacy

ABSTRACT

Diabetes mellitus is a metabolic disease due to an illness in insulin secretion, insulin movement or both. The situation itself introduces a want for patient's lifestyle adjustment to the disorder and some of ordinary healing and diagnostic restrictions. The most important indication of diabetes mellitus is a hyperglycemia in blood that's because of irrelevant pancreatic insulin secretion or low insulin-directed fostering of glucose with the aid of using goal cells. Different varieties of diabetes mellitus, kind 1, kind 2, gestational diabetes and different varieties of diabetes mellitus are in comparison in phrases of diagnostic criteria, etiology and genetics. Currently to be had pharmacotherapy for the remedy of diabetes mellitus consists of insulin and hypoglycemic agents. These capsules act with the aid of using growing the secretion of insulin shape pancreas or decreasing plasma glucose concentrations with the aid of using growing glucose uptake and lowering gluconeogenesis. Comobrid intellectual sicknesses can similarly negatively have an effect on the path of diabetes. They are specifically depression, tension problems, consuming problems and cognitive problems together with dementia. Various natural capsules had been additionally proved powerful because of their useful contents in remedy of diabetes.

HPLC METHODDEVELOPMENT AND VALIDATION- A REVIEW

SumalathaReddi
Princeton College of Pharmacy

ABSTRACT

The most common method for locating, separating, and measuring the medication is HPLC. To improve the approach, a number of chromatographic factors including sample pretreatment, mobile phase selection, column selection, and detector selection were examined. Goals of this piece include review the creation, improvement, and validation of the approach. Development of HPLC techniques entailson the molecular composition, synthesis process, solubility, polarity, pH, and pKa values, as well as Activities of functional groups, etc. Information is provided through HPLC technique validation using ICH Guidelines. Understanding qualities like Accuracy, Specificity, and Linearity Limit with respect to various stages and detection and quantification's upper limit.

ISBN: 978-93-88746-31-1

NEEDLE FREE INJECTION TECHNOLOGY

Polepaka Ajay Kumar
Princeton College of Pharmacy

ABSTRACT

Needle free injection technology (NFIT)is an extremely broad concept which include a wide range of drug delivery systems that drive 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 hypodermic needle. This technology is not only touted to be beneficial for the pharm industry but developing world too find it highly useful in mass immunization programmes, bypassing the chances of needle stick injuries and avoiding other complications including those arising due to multiple use of single needle. The NFIT devices can be classified based on their working, type of load, mechanism of drug delivery and site of delivery. To administer a stable, safe and an effective dose through NFIT, the sterility, shelf life and viscosity of drug are the main components which should be taken care of. 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; however the widely employed procedure to manufacture it is by injection molding technique.

Biochemistry of Anticoagulant Drugs

Miss Hema
Princeton College of Pharmacy

ABSTRACT

We want to broadly explore the basic biochemistry of blood coagulation and the mechanism of action used anticoagulant drugs that work by targeting components of the biochemical apparatus of the coagulation pathway. After a comprehensive summary of the biochemical events involved in blood coagulation, the relationship between drug structure and function targets of different drug classes were discussed. Next a direct inhibitor of thrombin is hirudin, an anticoagulant weapon of leeches that has recently been used in clinical treatment, binds bidentally with thrombin. The human body's anticoagulant, ant thrombin, is the drug's target heparin, which provides increased anticoagulant activity only by acting as a bridge between thrombin and antithrombin. The pharmacokinetic properties of representative drugs of each class were also discussed in this review.

ISBN: 978-93-88746-31-1

Development & Its characterization of Copper Nanoparticles Using Natural source.

ThanduRajini
Princeton College of Pharmacy

ABSTRACT

Nanotechnology is mainly concerned with synthesis of nanoparticles of variable sizes, shapes, chemical compositions and controlled dispersity with their potential use for human benefits. The subject nanotechnology deals with manufacturing, study and manipulation of matter at nano scale in the size range of 1-100 nm which may be called as nanoparticles. Development of green nanotechnology is creating interest of researchers towards eco-friendly biosynthesis of nanoparticles. Biomolecules present in plant extracts can be used to reduce metal ions into nanoparticles in a single-step green synthesis process. Tulasi (Ocimum sanctum L.) is an aromatic plant belongs to family Lamiaceae. Tulasi is a traditional medicinal plant of India, having good source of bio-reduction and stabilizers. The constituent of tulasi are alkaloids, glycosides, tannins, saponins and aromatic compounds and also it contains minerals like Ca, Mn, Cu, Zn, P, K, Na, and Mg where the concentration of Cu is more in tulasi leaves than other leaves. It constitutes 12.31 mg/kg of Cu. Recently Ocimum sanctum L. leaf extracts have been used in the synthesis of silver nanoparticles and gold nanoparticles. Tulasi is a source of bio-reduction and stabilizers. The copper is highly toxic to microorganisms such as bacteria, copper nanoparticles were synthesized from various plant extracts such as Hibiscus rosasinensi. Various instrumental techniques were adopted to characterize the synthesized Cu NPs UV-Vis spectroscopy, FTIR.

ISBN: 978-93-88746-31-1

Evaluation of antioxidant, antimicrobial and antiproliferative activity of silver nanoparticles derived from Galphimiaglauca leaf extract

SunithaChintala
Princeton College of Pharmacy

ABSTRACT

The bio-synthesis of silver nanoparticles (AgNPs) is regarded as environment friendly and cost effective method compared to physical and chemical synthesis methods. Silver (Ag) is an important noble metal due to its tremendous use in research and medical fields throughout the world. This research work was aimed at green synthesis and characterizations of AgNPs from *G*. glauca leaf extract and evaluation of their bioactive potential.

Sulphonamides-A Pharmaceutical Review

HariprasadKadiyam
Princeton College of Pharmacy

ABSTRACT

The sulfonamides represent a large class of antibiotics that have multiple clinical uses. The sulfonamides were the first effective antibiotics to be introduced into clinical medicine and have been in use continuously since the 1930's. They are considered bacteriostatic and appear to act by inhibition of bacterial biosynthesis of folic acid, which is needed for cell growth, at least in those bacteria that are sensitive to sulfonamides. Because humans rely upon dietary folic acid, they are usually resistant to the adverse effects of inhibition of folate synthesis. Sulphonamides are effective chemotherapeutic agents used for bacterial infection in humans. Sulfonamides have a wide range of pharmacological activities such as Oral hypoglycemic, antileprotic, anti-epileptic, anti-hypertensive, anti-bacterial, anti-protozoal, anti-fungal, anti-retroviral, anti-cancer, antiinflammatory, and used as diuretic.

ISBN: 978-93-88746-31-1

Root Vegetables-Composition, Health Effects, and Contaminants- A Review

KokkulaSatyanarayana

Princeton College of Pharmacy

ABSTRACT

Root vegetables are known all over the world, but they are being less and less consumed by individuals. The main purpose of this article was to summarize the benefits, health effects, and threats associated with the consumption of carrot, celery, parsley, beetroot, radish, turnip, and horseradish. They are characterized by high nutritional value due to their richness in dietary fibre, vitamins, and minerals. Comparison of their antioxidant effects is difficult due to the lack of standardization among methods used for their assessment. Therefore, there is a need for a reference method that would allow for correct interpretation. Moreover, root vegetables are characterized by several health-promoting effects, including the regulation of metabolic parameters (glucose level, lipid profile, and blood pressure), antioxidant potential, prebiotic function, and anti-cancer properties. However, due to the type of cultivation, root vegetables are vulnerable to contaminants from the soil, such as toxic metals (lead and cadmium), pesticides, pharmaceutical residues, microplastics, and nitrates. Regardless, the low levels of toxic substances present in root vegetables do not pose health risks to the average consumer.

Formulation And Evaluation Of Chewable Multivitamin Tablet

Jakkulaasrikanth

Princeton College of Pharmacy

ABSTRACT

The overall objective of the present study was to formulate the chewable multivitamin tablet prepared by direct compression method. The excipient used in this study are mannitol, sucrose, starch, talc, magnesium stearate, vanilla powder for the effective formulation. As it is multivitamin, ascorbic acid, riboflavin, nicotinamide, thiamine HCL are used and evaluated for precompression parameter. The chewable tablets were better presented using sweetener sucrose and vanilla powder as a flavouring agent. The formulated tablet was evaluated for post compression parameter. The chewable tablet are prepared to ensure that they are easily crushed by chewing. The tablet was evaluated for weight variation, hardness, thickness,

ISBN: 978-93-88746-31-1

friability, drug content. Their dissolution properties were assessed using USP (paddle apparatus).

Development of validated stability indicating assay method for simultaneous estimation of metformin hydrochloride and vildagliptin by RP-HPLC

KornaDevamani

Princeton College of Pharmacy

ABSTRACT

A simple, precise and stability-indicating HPLC method was developed and validated for the simultaneous determination of metformin hydrochloride (MET) and vildagliptin (VLG) in pharmaceutical dosagse forms. The method involves use of easily available inexpensive laboratory reagents. The separation was achieved on Grace Cyano column (250 mm×4.6 mm) 5 µm with isocratic flow. The mobile phase was pumped at a flow rate of 1.0 mL/min, consisted of 25 mM ammonium bicarbonate buffer and acetonitrile (65:35, v/v).The method was successfully validated in accordance to ICH guidelines acceptance criteria for specificity, linearity, accuracy, precision, robustness, and system suitability. Individual drugs (MET and VLG) were exposed to thermal, photolytic, hydrolytic and oxidative stress conditions. The resultant stressed samples were analysed by the proposed method. The method gave high resolution among the degradation products and the analysts. The peak purity of analyte peak in the stressed samples was confirmed by photo diode array detector. Quality control and contribute to stability studies of pharmaceutical tablets containing these drugs.

Coumaroylflavonol glycosides from the leaves of Ginkgo biloba

Hari Prasad Kadiyam

Princeton College of Pharmacy

ABSTRACT

Two coumaroylflavonol glycosides, isorhamnetin 3-O-alpha-L-[6'''-p-coumaroyl-(beta-D)-glucopyranosyl-(1,2)-rhamnopyranoside], and kaempferol 3-O-alpha-L-[6'''-p-coumaroyl-(beta-D)-glucopyranosyl-(1,2)-rhamnopyranoside]-7-O-beta-D-glucopyranoside,were isolated from the n-BuOH extract of Ginkgo biloba leaves. These two, together with six other flavonol glycosides, kaempferol 3-O-alpha-L-[6'''-p-coumaroyl-(beta-D)-glucopyranosyl-(1,2)-rhamnopyranoside], quercetin 3-O-alpha-L-[6'''-p-coumaroyl-(beta-D)-glucopyranosyl-(1,2)-rhamnopyranoside], quercetin 3-O-alpha-L-[6'''-p-coumaroyl-(beta-D)-glucopyranosyl-

ISBN: 978-93-88746-31-1

(1,2)-rhamnopyranoside]-7-O-beta-D-glucopyranosidequercetin 3-O-beta-D-glucopyranosyl-(1-2)-alpha-L-rhamnopyranoside, quercetin 3-O-beta-rutinoside, and quercetin 3-O-beta-D-glucopyranoside, showed profound antioxidant activities in DPPH and cytochrome-c reduction assays using the HL-60 cell culture system.

Phytochemical and functional analysis of horseradish (Armoraciarusticana) fermented and non-fermented root extracts

Polepaka Ajay Kumar

Princeton College of Pharmacy

ABSTRACT

The roots of horseradish (Armoraciarusticana) are used for infections of respiratory airway and for urinary tract infections due to isothiocyanates (ITC), enzymatically formed during fermentation of glucosinolates by myrosinase. The present study aims to present a comprehensive overview on the phytochemical composition of A. rusticana roots, especially concerning isothiocyanates and respective glucosinolates. The complex flavonoid spectrum of the herbal material is reviewed. Published data on in vitro activity of horseradish extracts and isolated compounds are summarized. These data indicate well-established use of horseradish as an antibacterial remedy against bacterial infections of the airway and urinary tract.

ISBN: 978-93-88746-31-1

Two new flavonol glycosides from the Tibetan medicinal plant Aconitum tanguticum

Miss Hema

Princeton College of Pharmacy

ABSTRACT

Two new flavonol glycosides characterized as quercetin 3-O-α-l-rhamnopyranosyl-(1 → 2)-[β-d-glucopyranosyl-(1 → 3)-α-l-(4-O-trans-p-coumaroylrhamnopyranosyl)-(1 → 6)]-β-d-galactopyranoside-7-O-α-l-rhamnopyranoside (1) and kaempferol 3-O-α-l-rhamnopyranosyl-(1 → 2)-[β-d-glucopyranosyl-(1 → 3)-α-l-(4-O-trans-p-coumaroyl rhamnopyranosyl)-(1 → 6)]-β-d-galactopyranoside-7-O-α-l-rhamnopyranoside (2), together with two known flavonol glycosides quercetin 3-O-α-l-rhamnopyranosyl-(1 → 2)- [α-l-rhamnopyranosyl-(1 → 6)]-β-d-galactopyranoside-7-O-α-l-rhamnopyranoside (3) and kaempferol 3-O-α-l-rhamnopyranosyl-(1 → 2)-[α-l-rhamnopyranosyl-(1 → 6)]-β-d-galactopyranoside-7-O-α-l-rhamnopyranoside (4), were isolated from the whole plant of Aconitum tanguticum (Maxim.) Stapf. The structures of the new compounds were elucidated by spectroscopic methods, and the total (1)H and (13)C NMR chemical shifts were assigned.

A Review on Phytochemical Analysis of Ocimumsanctam

Chakrapu Rupa Devi

Princeton College of Pharmacy

ABSTRACT

Plants have served human kind as sources of medicinal agents since its earliest beginnings. In fact natural product once served as the source of all drugs. The main chemical constituents of Tulsi are: Oleanolic acid, Ursolic acid, Rosmarinic acid, Eugenol, Carvacrol, Linalool, and β-caryophyllene, have been used extensively for many years in food products, perfumery, and dental and oral products and plant extract continues the numerous searches for more effective drugs of plant origin which are less toxic and available for low socio-economic population in the treatment of diseases caused by pathogenic bacteria. Recent studies suggest that Tulsi may be a COX-2 inhibitor, like many modern painkillers, due to its high concentration of eugenol. The present study was to evaluate the phytochemical screening of aqueous extracts of leaves of Ocimum. Study has been shown that this medicinal herbs can be used as pharmaceutical adjuvants in the formulation of various dosage form.

ISBN: 978-93-88746-31-1

Phytochemical constituents and pharmacological properties of Garciniaxanthochymus- a review

G.S.Priyanka

Princeton College of Pharmacy

ABSTRACT

The purpose of this study was to determine the phytochemical constituents and pharmacological properties of Garciniaxanthochymus which is commonly known as gamboge, yellow mangosteen and false mangosteen. The phytochemicals constituents, pharmacological benefits and their mechanisms were previously presented in a number of studies including in vitro and in vivo studies from published books, journals and articles. The literature used in this review were published between 1970 and 2017 and were available from databases such as Google Scholar, ScienceDirect, Scopus, PubMed, ProQuest and others. The chemical structures in this paper are drawn using ChemBio Ultra 14.0. G. xanthocymus contains many phytochemicals that can be extracted from its constituent parts; the bark, fruits, leaves, roots, twigs and seeds. The predominant extracted phytochemicals are xanthones, benzophenones, flavonoids, depsidones and isocoumarins. These phytochemicals contribute to the pharmacological activities of this plant as an antioxidant, antidiabetic, and for having Nerve Growth Factor-potentiating, antimicrobial and cytotoxic activities. This species contains a broad range of phytochemicals with curative properties that can be greatly beneficial to man. Notably, this review focused on those studies of the pharmacological effects of this plant that were concentrated on by previous researchers. Thus, further study needs to be done on G. xanthocymus in order to unlock additional potential activities and to pinpoint the exact mechanisms of how these activities can be induced, leading to new drug discoveries which have fewer side effects.

ISBN: 978-93-88746-31-1

Qualitative phytochemical analysis of Allium sativum (Garlic) and Curcuma longa (Turmeric)

KurmaKirankumar

Princeton College of Pharmacy

ABSTRACT

The present study involves the qualitative phytochemical analysis of two different medicinal plants: Allium sativum (Garlic) and Curcuma longa (Turmeric). Garlic and turmeric are very renowned medicinal plants for their versatile pharmaceutical properties. Garlic benefits rank only second to turmeric benefits in the amount of research about these superfoods. Plants show medicinal properties as they contain phytochemical constituents. Phytochemical constituents are non-nutritive plant chemical that have disease preventive properties. Isolation of bioactive compounds from the plants depends mainly upon the solvents which are used for extraction. In our study, we have used water and ethanol as solvents. The aqueous and ethanolic extract samples were used for the phytochemical analysis. These extracts were used for qualitative preliminary phytochemical analysis using standard chemical tests. The results from the present study indicates the presence of proteins, phlobutanin, ketones, phenolic compounds, cardiac glycosides flavonoids, alkaloids and tannins.

Pharmacognostical and phytochemical analysis of Solanummacranthum (Dunal) Fruits

SunithaChintala

Princeton College of Pharmacy

ABSTRACT

Solanaceae family is known for possessing a wide range of therapeutic properties, therefore it remains promising to explore the pharmacognostical and phytochemical profile of the Solanaceae family species. SolanummacranthumDunal also known as ‘giant potato tree’, have been recognized for its various bioactivities. The present study was undertaken to screen the pharmacognostical and phytochemical profile of SolanummacranthumDunal. Sequential phytochemical extraction of the shade dried fruits was carried out using four different solvents viz., petroleum ether, chloroform, methanol and water. The qualitative phytochemical analysis of methanol and water extract showed the presence of alkaloids, flavonoids, terpenoids, steroids, tannins, saponins and glycosides.This study indicates that Solanummacranthum fruit possesses various bioactive phytoconstituents and low ash value

ISBN: 978-93-88746-31-1

making it a remarkable choice for its therapeutic applications in treating various human ailments.

Bioactivities of phytochemicals present in tomato

KokkulaSatyanarayana

Princeton College of Pharmacy

ABSTRACT

Tomato is a wonder fruit fortified with health-promoting phytochemicals that are beneficial in preventing important chronic degenerative disorders. Tomato is a good source of phenolic compounds (phenolic acids and flavonoids), carotenoids (lycopene, α, and β carotene), vitamins (ascorbic acid and vitamin A) and glycoalkaloids (tomatine). Protective role of tomato (lycopene as a potent antioxidant) in humans against various degenerative diseases are known throughout the world. Intake of tomato is inversely related to the incidence of cancer, cardiovascular diseases, ageing and many other health problems. Bioavailability of phytoconstituents in tomato is generally not affected by routine cooking processes making it even more beneficial for human consumption. The present review provides collective information of phytochemicals in tomato along with discussing their bioactivities and possible health benefits.

Validated RP-HPLC Method for the Estimation of Esomeprazole Enteric Coated Tablets

UpputuriSrikanth

Princeton College of Pharmacy

ABSTRACT

A simple, efficient and reproducible RP-HPLC method for determination of Esomeprazole in enteric coated tablet pharmaceutical dosage has been developed. The Separation was carried out on Zorbax SB C18 column (250 × 4.6 mm, 5 µm) column using buffer 6.8 g of potassium dihydrogen orthophosphate and 0.9 g of sodium hydroxide (NaOH) in 1000 ml of water (adjusted to pH 6.8 with 0.2 M NaOH). Buffer: Acetonitrile in the ratio of 40:60 v/v as diluent. The flow rate was 1.0 ml/min and effluent was detected at 280 nm. The retention times of esomeprazole was 3.2 min and the linearity ranges were found to be 50-150 µg/ml (r2=0.9990). The percentage relative standard deviation for accuracy and precision was found to be less than 2%. Hence, the method was effectively used for the regular analysis of esomeprazole in enteric coated tablet dosage form.

ISBN: 978-93-88746-31-1

Development and validation of a UPLC method for the determination of duloxetine hydrochloride residues on pharmaceutical manufacturing equipment surfaces

Sridhar Chilakani

Princeton College of Pharmacy

ABSTRACT

In pharmaceutical industries, it is very important to remove drug residues from the equipment and areas used. The cleaning procedure must be validated, so special attention must be devoted to the methods used for analysis of trace amounts of drugs. A rapid, sensitive, and specific reverse phase ultra-performance liquid chromatographic (UPLC) method was developed for the quantitative determination of duloxetine in cleaning validation swab samples. The method was validated using an Acquity UPLC™ HSS T3 (100 × 2.1 mm2) 1.8 µm column with a isocratic mobile phase containing a mixture of 0.01 M potassium dihydrogen orthophosphate, pH adjusted to 3.0 with orthophosphoric acid and acetonitrile (60:40 v/v). The flow rate of the mobile phase was 0.4 ml/min with a column temperature of 40°C and detection wavelength at 230 nm. Cotton swabs, moisten with extraction solution (90% methanol and 10% water), were used to remove any residue of drug from stainless steel, glass and silica surfaces, and give recoveries >80% at four concentration levels.

Development and Validation of Rp-Hplc Method for the Estimation of Clopidogrel Bisulphate

Hari Prasad Kadiyam

Princeton College of Pharmacy

ABSTRACT

A novel, simple, precise, accurate and economical method has been developed and validated for the estimation of Clopidogrel bisulphate. Chromatographic analysis was performed on Hypersil BDS C18 (250 × 4.6 mm, 5 µm) column. Mobile phase used was potassium dihydrogen orthophosphate buffer: acetonitrile in a ratio of 32:68, pH was adjusted to 4.0 using orthophosphoric acid and 0.1 ml of triethyl amine was added for peak sharpness. Isocratic analysis was performed on SPD-20A double beam UV spectrophotometer at a detection range of 220 nm with a flow rate of 1.0 ml/min. The retention time for clopidogrel bisulphate was 3.847 min. The linear response was found to be in a concentration range of

ISBN: 978-93-88746-31-1

50-150 µg/ml with a correlation coefficient of 0.999. The mean recovery was found to be 100.67 %. Intraday and Interday precision variations were found to be 1.88 and 0.863 respectively, which are within the limit of % RSD not more than 2.

Phytochemical analysis of crude extract and carotenoid pigments from fruits, vegetables and flowers

RoopaniMadhu

Princeton College of Pharmacy

ABSTRACT

Nature has been providing medicines to treat our diseases and relieve our suffering for many thousands of years. Despite great advances in rational drug design, in which new medicines are synthesized based on knowledge of specific molecular targets, most prescribed medicines used in industrialized countries today still are derived from, or patterned after, natural compounds from plants, animals, and microbes. This is particularly true for drugs that treat infections and cancers. Thus Traditional medicine has a long history of serving peoples all over the world. India is without doubt aherbal hub. Medicinal plants that are native to India and their use in various traditional systems of medicine are indeed awe-inspiring. The Ethnobotany of ubiquitous plants provides a rich resource for natural drug research and development. Thus natural sources make a very significant contribution to the health care system. The present study is a first initiative to study the phytochemical properties of selected Fruits, Vegetables and Flowers of Medicinal Importance.

Development and Validation of Spectrophotometric Methods for Quantitative Estimation of PramipexoleDihydrochloride in bulk and Pharmaceutical Dosage Form

KadasiSundeep

Princeton College of Pharmacy

ABSTRACT

Two simple and sensitive spectrophotometric methods (A and B) in visible region have been developed for the estimation of Pramipexoledihydrochloride in pure and pharmaceutical formulations. Method A and B is based on the condensation of heterocyclic amino group of Pramipexole with Para-dimethyl aminocinnamaldehyde (PDACA) and vanillin in presence of acidic media i.e. conc. Hydrochloride to form a colored chromogen with a characteristic

ISBN: 978-93-88746-31-1

absorption maximum at 525nm and 425nm respectively. Beer's law is obeyed in the concentration range of 50-350µg/mL and 10-50µg/mL for Method A and B respectively. The results obtained with the proposed methods are in good agreement with labeled amounts when the marketed pharmaceutical formulations are analyzed. The results of analysis have been validated statistically and by recovery studies.

Development and Validation of Rasagiline Tartrate in Tablets by using Liquid Chromatography

KornaDevamani

Princeton College of Pharmacy

ABSTRACT

A simple, accurate and sensitive **liquid chromatographic method** has been developed for the determination of Rasagiline Tartrate (RAST) in API and its **dosage forms.** The separation was achieved on Inertsil ODS (250mm X 4.6mm) C18, 5 µm column. The mobile phase consisted of Methanol: Acetonitrile: Water (50:30:20 v/v), pH: 3.2 adjusted with Triethylamine (TEA), flow rate 1 mL/min at **ambient temperature**. The analytes were monitored by PDA detector at 206 nm. The method was validated for specificity, precision, linearity, and accuracy. The average recoveries for RAST were in the range of 89.0 – 93.0% and the present work has been focused on the development of simple, accurate and precise analytical method based on **RP-HPLC** for the formulation of RAST.

Development and validation of a high-performance liquid chromatographic method for determination of eprosartan in bulk drug and tablets

B.Shivakumar

Princeton College of Pharmacy

ABSTRACT

A simple, precise, and accurate isocratic RP-HPLC method was developed and validated for determination of eprosartan in bulk drug and tablets. Isocratic RP-HPLC separation was achieved on a Phenomenex C18 column (250 x 4.6 mm id, 5 microm particle size) using the mobile phase 0.5% formic acid-methanol-acetonitrile (80 + 25 + 20, v/v/v, pH 2.80) at a flow rate of 1.0 mL/min. The retention time of eprosartan was 7.64 +/- 0.05 min. The detection was performed at 232 nm. The method was validated for linearity, precision, accuracy, robustness, solution stability, and specificity. The method was linear in the concentration

ISBN: 978-93-88746-31-1

range of 10-400 microg/mL with a correlation coefficient of 0.9999. The repeatability for six samples was 0.253% RSD; the intraday and interday precision were 0.21-0.57 and 0.33-0.71% RSD, respectively. The accuracy (recovery) was found to be in the range of 99.86-100.92%. The drug was subjected to the stress conditions hydrolysis, oxidation, photolysis, and heat. Degradation products produced as a result of the stress conditions did not interfere with detection of eprosartan; therefore, the proposed method can be considered stability-indicating.

Determination of eprosartanmesylate and hydrochlorothiazide in tablets by derivative spectrophotometric and high-performance liquid chromatographic methods.

SanguJyothi

Princeton College of Pharmacy

ABSTRACT

Two new simple and selective assay methods have been presented for the analysis of eprosartanmesylate (EPR) and hydrochlorothiazide (HCT) in pharmaceutical formulations. The first method is based on first-derivative ultraviolet spectrophotometry with zero-crossing measurements at 246 and 279 nm for EPR and HCT, respectively. The assay was linear over the concentration ranges 3.0-14.0 µg/mL for EPR and 1.0-12.0 µg/mL for HCT. The quantification limits for EPR and HCT were found to be 1.148 and 0.581 µg/mL, respectively, while the detection limits were 0.344 µg/mL for EPR and 0.175 µg/mL for HCT. The second method involved isocratic reversed-phase liquid chromatography using a mobile phase composed of acetonitrile-10 mM phosphoric acid (pH 2.5) (40:60, v/v). Olmesartan was used as internal standard and the substances were detected at 272 nm. The linearity ranges were found to be 0.5-30 and 0.3-15.0 µg/mL for EPR and HCT, respectively. The limits of detection were found to be 0.121 µg/mL for EPR and 0.045 µg/mL for HCT. The limits of quantification were found to be 0.405 and 0.148 µg/mL for EPR and HCT, respectively.

ISBN: 978-93-88746-31-1

Formulation and Evaluation of Rapid Dissolving Oral Thin Films of Cetirizine Hydrochloride

KurmaKirankumar

Princeton College of Pharmacy

ABSTRACT

Fast dissolving dosage forms are gaining popularity in recent time, as this dosage forms require no water for administration,cetrizine hydrochloride is widely used in allergic induced asthama.The aim of present work was to develop a rapidly dissolving oral film with good mechanical properties, instant disintegration and dissolution. Solvent casting method was used to prepare oral films, the polymers selected were HPMC 5cps and HPMC 15cps. Polythelene glycol 400 was the plasticizer used and aspartame was the sweetener. Eight batches of films with drug were prepared using different polymer concentrations. The optimized film (F1) has disintegrated within 49seconds. The percentage release was varying with the concentration of polymer. The films made with HPMC 5cps 200mg (F1) released 96.84% of drug in 7min, which was the best release amongst all.

Formulation and evaluation of mucoadhesivebuccal tablets of aceclofenac

HariprasadKadiyam

Princeton College of Pharmacy

ABSTRACT

This project was aimed to formulate and characterize mucoadhesivebuccal tablets of aceclofenac, utilizing different proportions of three polymers carbopol 934, hydroxypropyl methylcellulose, and sodium carboxymethylcellulose. Twelve batches of buccoadhesive aceclofenac were prepared by the direct compression method. The compressed tablets were then evaluated for physicochemical parameters such as hardness, thickness, weight variation, drug content, friability, swelling index, surface pH, and ex vivo mucoadhesion. In vitro dissolution test was conducted for 12 h according to Indian Pharmacopeia 2018, using the rotating paddle method in phosphate buffer of pH 7.4. Physiochemical parameters like weight variation (231.25-268.75 mg), hardness (8.32-11.56 kg), friability (0.04-0.2%), diameter (9.00 mm), thickness (3.8-4.05 mm), and drug content ((97.67-102.25%) were within the acceptable limit as per Indian Pharmacopeia 2018. The swelling index was reported to be in

ISBN: 978-93-88746-31-1

the range of 112.93-450.19%, at 8 h. The surface pHs of all the batches were in between 6.72 to 6.96. The mucoadhesive strengths (40.5-50 g) varied with the change in polymer concentrations especially of carbopol 934. The dissolution profile of all the batches varied greatly, with a maximum release of 109.41% (in batch 12 at 6 h) to a minimum release of 44.82% (in batch 3 at 12 h). Among them, only batch 1 ensured sustained and effective drug release (88.34% at 12 h) with appropriate swelling index (112.93%) and mucoadhesive strength (40 g). Fourier Transform Infrared Spectroscopy analysis showed no evidence of drug excipients interaction. Hence, the results concluded that buccalmucoadhesive aceclofenac tablets can be formulated. Furthermore, the property of the tablet not only depends on the concentration but also the behavior of the polymers used.

Development and validation of RP-HPLC method for determination of carvedilol in bulk and pharmaceutical dosage forms

Viyyapu Ramesh Naidu

Princeton College of Pharmacy

ABSTRACT

A simple, selective, linear, precise and accurate RP-HPLC method was developed and validated for assay of Carvedilol in bulk drug and pharmaceutical dosage forms. Isocratic elution at a flow rate of 1mL/min was employed on Hypersil ODS C18, 150 X 4.6, 5µ; Column, mobile phase consisting of Potassium dihydrogen orthophosphate, dipotassium hydrogen phosphate and Acetonitrile in the ratio (50: 50 v/v) adjusted pH 3.0 with dilute orthophosphoric acid solution. The ultraviolet detection wavelength was at 240nm. The method was validated for Linearity, Precision, Accuracy, Ruggedness and Robustness as per ICH Guidelines. The LOD and LOQ have also been established and found to be 0.8346µg/mL and 2.5292 µg/mL. The validated method can be successfully applied for the estimation of Carvedilol in pharmaceutical dosage forms.

ISBN: 978-93-88746-31-1

RP-HPLC Assay Method Development and Validation of BeclomethasoneDipropionate in Metered Dose Inhaler- A Research

SumalathaReddi

Princeton College of Pharmacy

ABSTRACT

RP-HPLC assay method developed and validated for BeclomethasoneDipropionate in metered dose inhaler (MDI) using Testosterone propionate as an internal standard.The separation of BeclomethasoneDipropionate was achieved on Waters Spherisorb ODS-1 column (100 x 4.6 mm, i. d. 5 µm particle size) with an isocratic mobile phase containing methanol and water (70:30, v/v). The flow rate was 2.0 mL min-1, injection volume 20µl and detection wavelength was set at 239 nm, at 50 oC. The validation of the proposed method was carried out for specificity, linearity, accuracy, precision, and system suitability test as per ICH guideline. The retention time of BeclomethasoneDipropionate found to be 1.8 min. calibration graph was found to be linear at range 0.15- 2.25 µg/ml. The regression coefficient (r2) was found to be 0.999., the proposed method was found to be rapid and stability-indicating with adequate specificity, precision, accuracy, Ruggedness and robustness and hence be suitable for the routine analysis of Beclomethasonedipropionate in Meter dose inhalation and in bulk.

Formulation and evaluation of polyherbal hair gel formulation

JyothisriSamanthakurthi

Princeton College of Pharmacy

ABSTRACT

Dandruff is a skin condition with symptoms includes flaking and sometimes mild itchiness cause to the scalp. They are many bacteria, fungus causing scalp infections which lead to further hair problems or skin issues. There is one of the common conditions candidiasis which is typically caused on the skin or mucus membrane caused by candida. Herbal extract of gauva leaves, amla and aloe found to be effective in treating Candidiasis. Guava leaves are rich in Vitamin B & C that helps in nourishing hair and also aids hair growth. Guava leaves shows antibacterial and antifungal activity on gram positive and gram negative bacteria. Vitamin C present in Amla which is 20 times more than that of orange; which prevents premature graying of hairs, it also providesluster to hairs and strengthen follicles. Gauva

ISBN: 978-93-88746-31-1

leaves extract was evaluated by Cup and plate method against the fungus *C. albicans* and bacteria *S. aureus*. Herbal Gel was formulated and evaluated by using Carbopol 934, triethanolamine etc. A polyherbal hair gel was found to be effective against candidiasis along with this it nourished the hair and prevent premature graying.

Design, development and evaluation of novel nanoemulsion formulations for transdermal potential of celecoxib

SarithaRasala

Princeton College of Pharmacy

ABSTRACT

The aim of the present study was to investigate the potential of nanoemulsion formulations for transdermal delivery of celecoxib (CXB). The in vitro skin permeation profile of optimized formulations was compared with CXB gel and nanoemulsion gel. Significant increase in the steady state flux (Jss), permeability coefficient (Kp) and enhancement ratio (Er) was observed in nanoemulsion formulations T1 and T2 ($p < 0.05$). The highest value of these permeability parameters was obtained in formulation T2, which consisted of 2% (m/m) of CXB, 10% (m/m) of oil phase (Sefsol 218 and Triacetin), 50% (m/m) of surfactant mixture (Tween-80 and Transcutol-P) and 40% (m/m) water. The anti-inflammatory effects of formulation T2 showed a significant increase ($p < 0.05$) in inhibition after 24 h compared to CXB gel and nanoemulsion gel on carrageenan-induced paw edema in rats.

Formulation and evaluation of Ketoconazole niosomal gel drug delivery system

ThanduRajini

Princeton College of Pharmacy

ABSTRACT

Niosomes play an increasingly important role in drug delivery as they can reduce toxicity and modify pharmacokinetic and bio-availability. Topically applied niosomes can increase the residence time of drugs in the stratum corneum and epidermis, while reducing the systemic absorption of the drug. It can act as drug containing reservoirs and the modification of the vesicular compositions or surface properties can adjust the drug release rate and the affinity for the target site. Ketoconazole is a broad spectrum Imidazole derivative useful in the treatment of superficial and systemic fungal infections. In order to improve the low skin

ISBN: 978-93-88746-31-1

penetration and to minimize the side effects associated with topical conventional drug administration, Ketoconazole niosomes were prepared by a thin film hydration method using different ratios of non-ionic surfactants (Span 40, 60 and Tween 60) along with cholesterol (CHO). The formulations were evaluated for size, shape, entrapment efficiency and in vitro drug release.

Absolute oral versus inhaled bioavailability: significance for inhaled drugs with special reference to inhaled glucocorticoids.

Jakkulaasrikanth
Princeton College of Pharmacy

ABSTRACT

Orally inhaled drugs provide great benefit in the treatment of asthma as they are delivered directly to the site of action, i.e. the lung. The absolute oral inhaled bioavailability of a glucocorticoid results from the combination of the bioavailability of the dose delivered to the lung and the bioavailability of the dose delivered into the gastrointestinal (GI) tract. The majority of the dose delivered to the lung is absorbed and available systemically. Since this oral component of the delivered dose does not provide any beneficial therapeutic effect but can contribute to the systemic side effects, it is desirable for the absolute oral bioavailability of inhaled glucocorticoids to be relatively low (which is the case with most of the glucocorticoids, < 25%). Another approach to limiting systemic exposure from inhaled delivery is to improve the effectiveness of the oral inhaled formulation and delivery device, by increasing the fraction of the total inhaled dose which reaches the lung. Since current inhalation technology can provide respirable fractions in the range of 30-50%, Below a certain point (approximately 25%), lower oral bioavailability of inhaled drugs may not be clinically important with respect to systemic exposure if the lung targeting is good (30%)

Development and Validation of Rp-Hplc Method for Phenytoin Sodium and Phenobarbitone in Bulk and Pharmaceutical Dosage Form

RoopaniMadhu

Princeton College of Pharmacy

ABSTRACT

To develop an accurate, simple, rapid, precise, and linear RP-HPLC method for the simultaneous estimation of phenytoin sodium and phenobarbitone in tablet dosage form and validated as per ICH guidelines. The method used was a reverse phase HPLC (RP-HPLC) method using Hypersil BDS C18, (250×4.6 mm, 5 µm) column, mobile phase comprising of

ISBN: 978-93-88746-31-1

methanol: phosphate buffer (pH 5.0) (50:50), flow rate of 1.0 ml/min and a detection wavelength of 215 nm using a UV detector.

Carvedilol-loaded mucoadhesivebuccal tablets: influence of various mucoadhesive polymers on drug release behaviour

Shivakumarmiryala

Princeton College of Pharmacy

ABSTRACT

The major objectives of the current study were (i) to prepare carvedilol-loaded buccal tablets by direct compression technique, and (ii) to study the influence of low and high proportions of sodium carboxy methylcellulose (SCMC) in conjunction with the corresponding high and low proportions of sodium alginate, polyvinyl pyrrolidone (PVP-K-30), carbopol 974P, and hydroxypropyl methylcellulose (HPMC) on the basic properties (hardness, friability, weight variation, thickness uniformity, drug content, mucoadhesive strength, surface pH, swelling property, and drug release behavior) of the tablets. Altering the polymer combinations did not affect the physical properties of the buccal tablets. In addition, this polymer combination at 2:1 ratio did release the drug completely during the stipulated dissolution time. Swelling study indicated the tablet structure collapse over time at 2:1 polymer ratio, thus exposing the drug molecules directly to the dissolution medium to attain the complete drug release from the SCMC and sodium alginate-based tablets. On the other hand, whatever the polymer ratios, the SCMC and carbopol 974P combination always retarded the drug release in an almost similar manner.

Formulation and Evaluation of Diclofenac Sodium Matrix Tablets Based on Tamarindus indica Seed Mucilage

G.S.Priyanka

Princeton College of Pharmacy

ABSTRACT

In the present investigation, tamarind seed mucilage was evaluated as sustained release matrix forming material in Diclofenac sodium tablet formulations. The physicochemical properties, tamarind seed mucilage such as loss on drying, viscosity, swelling index, pH and melting point were studied. Matrix tablets were prepared by wet granulation technique using isopropyl alcohol as a granulating agent. Sustained release matrix tablets of diclofenac sodium, were developed by using different drug: polymer ratios, such as AF1 (1:0.5), AF2

ISBN: 978-93-88746-31-1

(1:1), AF3 (1:1.5), AF4 (1:2) and AF5 (1:2.5). All the lubricated formulations were compressed using flat faced punches. Compressed tablets were evaluated for uniformity of weight, content of active ingredient, friability, hardness, thickness, in vitro dissolution using paddle method, and swelling behavior. All the formulations showed compliance with pharmacopoeial standards. Tablets prepared with Hydroxypropylmethylcellulose (HPMC 50cps) and Xanthan gum as matrix forming material for the comparative study. Among different formulations, AF2 showed sustained release of drug for 12 hours with 92.75% release. The dissolution profiles of the HPMC (GF1) and Xanthan gum (FF1) based matrix tablets were close to the profile obtained by tamarind seed mucilage based matrix tablets AF2. The kinetic treatment showed that the release of drug follows zero order model and anomalous diffusion for AF2 and FF1 while the drug release of GF1 was best explained by Higuchi's model and anomalous diffusion. The selected formulation (AF2) was subjected to stability studies for three months at 45° temperature with RH 75±5%, and showed stability with respect to release pattern. It is cleared that the drug release from matrix tablets prepared by using tamarind gum can be sustained for more than 12 hrs and release of drug vary with concentration of polymer.

Formulation and Evaluation of Polyherbal Vanishing Cream

Sagar Gattuvelli

Princeton College of Pharmacy

ABSTRACT

Herbal vanishing cream has various advantages over existing cosmetic vanishing creams found in the market. Due to zero side effects of herbal vanishing cresam, these are formulated. As every individual in today's world need a healthy, flawless, acne free skin and naturally glowing skin hence, herbal vanishing cream are gaining popularity. The most of existing creams which has been prepared from drugs of synthetic origin, such as acyclovir, triamcinolone, calcipotriene, mometason which gives more fairness to the skin but may have various side effects such as itching or kinds of allergic reactions. The creams are oil in water emulsion. Vanishing cream containing natural base was pleasant, effective, easily washable and completely safe for human use. In contrast with ointments, which are greasy and messy in nature and may cause staining of clothes, the prepared Natural palm oil based vanishing cream was pleasant, easily washable thereby increasing patient compliance. The prepared formulations were evaluated for physical evaluation tests like color, odor and evaluated for different evaluation parameters like pH, homogeneity viscosity, type of smear, after feel test,

ISBN: 978-93-88746-31-1

dye test, spreadability test, patch test and skin irritation study. The vanishing cream can also be prepared from the seeds and peels of plant Turmeric, Honey, Brassica nigra, Almond musturd seed powder extract.

Flavonoid compounds and antibacterial mechanisms of different parts of white guava (Psidiumguajava L. cv. Pearl)- A Review

Malothusuresh

Princeton College of Pharmacy

ABSTRACT

The flavonoid compositions, extracted from leaves, peel and flesh of white guava were identified and quantified by UPLC-ESI-QTOF-MS, HPLC-ESI-MS/MS and HPLC. The main components of three extracts all were quercetin-glycosides, but the proportion and content of quercetin-hexoside and quercetin-pentoside in each extract were different. Based on the measurements of MIC, MBC value and time killing curve, it emerged that 3 flavonoid extracts of white guava had good antibacterial effects on four pathogenic bacteria. White guava leaves flavonoids (WGLF) concentrations of 5.00 mg/mL and 0.625 mg/mL could change the micro-morphology of *Escherichia coli* and *Staphylococcus aureus*It is indicated that the flavonoid extracts from white guava is a potential natural antimicrobial agent.

Identification of new phytoconstituents and antimicrobial activity in stem bark of Mangiferaindica (L.)

KasireddySwetha Reddy

Princeton College of Pharmacy

ABSTRACT

Mangiferaindica, commonly called mango or amra belonging to a family of Anacardiaceae, is an important medicinal plant widely used in a variety of Ayurvedic preparations. Extract of its bark, leaves, flowers and kernels are being extensively used for curing various chronic diseases. Mango wood is used in yagya as base fire through which medicated smoke is generated. Three new compounds have been isolated from methanolic and hexane extracts of stem bark: 1,2-benzenedicarboxylic acid, mono(2-ethylhexyl)ester and 9,12-tetradecadiene-1-ol-acetate from the hexane extract and 3-chloro-N-(2-phenylethyl) propanamide from the methanolic extract. These were first separated by thin layer chromatography and later in a silica gel column and identified by characteristic infrared bands corresponding to respective

ISBN: 978-93-88746-31-1

functional groups. The compounds were further confirmed on the basis of GC-MS fragmentation pattern after comparing the data with NIST mass spectral database. All three compounds exhibited antimicrobial activity due to triterpenoids and flavonoids. Elemental analyses by INAA show it to be enriched in essential nutrient elements such as Ca, Fe, K, Mn and Zn which all play an important role in enzymatic processes.

Health effects and bioavailability of dietary flavonols

BoggulaRatnakumari

Princeton College of Pharmacy

ABSTRACT

Flavonoids are polyphenolic compounds that are ubiquitously present in foods of plant origin. Flavonoids are categorised into flavonols, flavones, catechins, flavanones, anthocyanidins, and isoflavonoids. Flavonoids present in foods used to be considered non-absorbable because they are bound to sugars as beta-glycosides. However, we found that human absorption of the quercetin glycosides from onions (52%) is far better than that of the pure aglycone (24%). The sugar moiety is an important determinant of their absorption and bioavailability. The average intake of the flavonolsquercetin, myricetin and kaempferol and the flavones luteolin and apigenin in the Netherlands was 23 mg/day. A protective effect of flavonols on cancer was found in one prospective study; two others showed no association. Thus the epidemiological evidence does not yet allow a decision on the involvement of flavonols in the etiology of either cardiovascular diseases or cancer.

Absorption, metabolism and health effects of dietary flavonoids in man

KokkulaSatyanarayana

Princeton College of Pharmacy

ABSTRACT

Flavonoids are polyphenolic compounds that occur ubiquitously in foods of plant origin. Over 4,000 different flavonoids have been described, and they are categorized into flavonols, flavones, catechins, flavanones, anthocyanidins and isoflavonoids. Flavonoids have a variety of biological effects in numerous mammalian cell systems, in vitro as well in vivo. Recently, much attention has been paid to their antioxidant properties and to their inhibitory role in various stages of tumour development in animal studies. Quercetin, the major representative of the flavonol subclass, is a strong antioxidant, and prevents oxidation of low density

ISBN: 978-93-88746-31-1

lipoproteins in vitro. Oxidized low density lipoproteins are atherogenic, and are considered to be a crucial intermediate in the formation of atherosclerotic plaques. This agrees with observations in epidemiological studies that the intake of flavonols and flavones was inversely associated with subsequent coronary heart disease. However, no effects of flavonols on cancer were found in these studies. The extent of absorption of flavonoids is an important unsolved problem in judging their many alleged health effects. Flavonoids present in foods were considered non-absorbable because they are bound to sugars as beta-glycosides. Only free flavonoids without a sugar molecule, the so-called aglycones, were thought to be able to pass through the gut wall. Hydrolysis only occurs in the colon by microorganisms, which at the same time degrade flavonoids. We performed a study to quantify absorption of various dietary forms of quercetin. To our surprise, the quercetin glycosides from onions were absorbed far better than the pure aglycone. Subsequent pharmacokinetic studies with dietary quercetin glycosides showed marked differences in absorption rate and bioavailability. Absorbed quercetin was eliminated only slowly from the blood. The metabolism of flavonoids has been studied frequently in various animals, but very few data in humans are available. Two major sites of flavonoid metabolism are the liver and the colonic flora. There is evidence for O-methylation, sulphation and glucuronidation of hydroxyl groups in the liver. Bacterial ring fission of flavonoids occurs in the colon. The subsequent degradation products, phenolic acids, can be absorbed and are found in urine of animals. Quantitative data on metabolism are scarce.

Method Validation and Estimation of Anagrelide Hydrochloride in Pharmaceutical Dosage by RP-HPLC Method

Sridhar Chilakani

Princeton College of Pharmacy

ABSTRACT

A simple, fast and reproducible reverse phase liquid chromatography (RP-HPLC) method was developed for the determination of Anagrelide Hydrochloride in bulk drug and pharmaceutical dosage form. The method was developed using Inertsil ODS-3V C18 (150 × 4.6 mm, 5 µm) column, mobile phase 0.1% triethylamine in Milli-Q-water (pH 3.0 adjusted with orthophosphoric acid) and acetonitrile in the ratio of 70:30% v/v with isocratic elution at a flow rate of 1 mL/min. System Suitability test were performed for the assurance of quality

ISBN: 978-93-88746-31-1

performance of method. The drug was subjected to accelerated degradation for photolytic, hydrolytic, thermal, oxidative conditions. The retention time of Anagrelide Hydrochloride was found to be 6.985 min. The method was validated for accuracy, precision, specificity, linearity, limit of detection, limit of quantitation and robustness as per ICH guidelines. All the parameters were within limits. The mean recovery was 99.9%. Limit of detection was found to be 2.99 µg/ml and limit of quantitation was found to be 9.96 µg/ml. The developed method can be used for the routine quality control analysis.

Chemical Constituents and Pharmacological Activities of Garlic (Allium sativum L.): A Review

KokkulaSatyanarayana

Princeton College of Pharmacy

ABSTRACT

Medicinal plants have been used from ancient times for human healthcare as in the form of traditional medicines, spices, and other food components. Garlic (*Allium sativum* L.) is an aromatic herbaceous plant that is consumed worldwide as food and traditional remedy for various diseases. It has been reported to possess several biological properties including anticarcinogenic, antioxidant, antidiabetic, renoprotective, anti-atherosclerotic, antibacterial, antifungal, and antihypertensive activities in traditional medicines. *A. sativum* is rich in several sulfur-containing phytoconstituents such as alliin, allicin, ajoenes, vinyldithiins, and flavonoids such as quercetin. Extracts and isolated compounds of *A. sativum* have been evaluated for various biological activities including antibacterial, antiviral, antifungal, antiprotozoal, antioxidant, anti-inflammatory, and anticancer activities among others.

A review on the Antimicrobial and Antioxidant Activity of Custard Apple (Annonareticulata) Peel Extracts

Kasireddy Swetha Reddy

Princeton College of Pharmacy

ABSTRACT

Custard apple or sugar apple can be called as a delicacy of dry region due to its very sweet delicate flesh. The peel of custard apple contains tannins, acetogenin and alkaloids which is beneficial in the treatment of several types of cancer and tumors. Methodology/Principal Findings: The present study was taken up to investigate the phytochemical composition, antimicrobial potential, antioxidant activity of the fruit peel wastes of custard apple. The phytochemical screening of the fruit peel revealed the presence of Carbohydrates, Saponins,

ISBN: 978-93-88746-31-1

Phenols and Terpenoids .The antioxidant property of the peel extract was evaluated using DPPH free radical scavenging and FRAP assay. The antimicrobial test results showed that the raw fruit peel extract had a great potential antimicrobial activity against all the bacteria and fungal species selected for testing.Conclusions/Significance: The results presented here may suggest that the raw fruit peel extracts possesses antioxidant and antimicrobial properties, and is therefore a potential source of ingredients for the food and pharmaceutical industry.

Development And Validation Of Rp-Hplc Method For Estimation Of Anagrelide Hydrochloride In Pharmaceutical Dosage Forms.

Ujjwala Konduru

Princeton College of Pharmacy

ABSTRACT

A simple, fast and reproducible reverse phase liquid chromatography (RP-HPLC) method was developed for the estimation of anagrelide hydrochloride in bulk drugs and formulations. The method was developed using Hypercil ODS- C18 (150 × 4.6mm, 5µ) column, mobile phase 0.1% triethylamine in Milli-Q-water (pH 3.0 adjusted with orthophosphoric acid) and acetonitrile in the ratio of 60:40%v/v with isocratic elution at a flow rate of 1.5ml/min. System Suitability test were performed for the assurance of quality performance of method. The retention time of anagrelide hydrochloride was found to be 6.985min. The method was validated for accuracy, precision, reproducibility, specificity, limit of detection, limit of quantification and robustness as per ICH guidelines. All the parameters were within limits. The mean recovery was 99.9%. Limit of Detection was found to be 0.053µg/ml and Limit of Quantification was found to be 0.16µg/ml respectively. The proposed method gave good resolution of Anagrelide Hydrochloride and its degradation products. The developed method can be used for the routine quality control analysis in labs.

ISBN: 978-93-88746-31-1

Phytochemical analysis and Antioxidant Evaluation of Lemon Grass (Cymbopogoncitratus DC.) Stapf Leaves – A Review

SanguJyothi

Princeton College of Pharmacy

ABSTRACT

Cymbopogoncitratus commonly called lemon grass is claimed to possess diverse medicinal value among different cultures. The present study determined the phytochemicals and evaluated the antioxidant potential of Cymbopogoncitratus leaves. The phytochemical and proximate analysis of the powdered leaves were carried out using standard methods. The antioxidant activity of the crude methanol extract and its fractions (n-hexane, ethyl acetate and chloroform) was evaluated using 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging and ferric reducing antioxidant power (FRAP) assays. The total phenolic and flavonoid contents were assessed using the Folin-Ciocalteu and aluminium chloride colorimetric methods, respectively. The phytochemical analysis revealed the presence of carbohydrates, reducing sugars, saponins, tannins, flavonoids and other phenolics compounds. The moisture, ash, fat, crude fibre, crude protein, water soluble ash and acid insoluble ash contents were 13.00%, 7.63%, 2.44%, 29.40%, 4.45%, 6.13% and 4.00%, respectively. Among the extract and fractions tested, the ethyl acetate fraction exhibited the highest antioxidant activity. The ethyl acetate fraction also had the highest phenolic and flavonoid contents. There was a strong relationship between the polyphenolic content and antioxidant activity of the extract and fractions with a coefficient of determination (r^2) of 0.889 and 0.920 for total phenols and total flavonoids, respectively. The present study showed that the leaves of Cymbopogoncitratus especially the ethyl acetate fraction possess good antioxidant activity and could serve as potentially source of natural antioxidants

ISBN: 978-93-88746-31-1

Preliminary Phytochemical Analysis and Estimation of Total Phenol Content in Carrot Extract

KokkulaSatyanarayana

Princeton College of Pharmacy

ABSTRACT

The ingestion of natural antioxidants has been associated with reduced risk of cancer, cardiovascular diseases, diabetes, and other diseases associated with ageing and in recent years, there has been a worldwide treat drug towards the use of natural phytochemicals present in berry crops,herbs, oilseeds, beans, fruits and vegetables. Medicinal plants contain some organic compounds which produce definite physiological action on the human body and these bioactive substances include tannins, alkaloids, carbohydrates, terpenoids and flavonoids. Some of the bioactive substances that can be derived from plants or herbs are flavonoids, carotenoids, tannin, antioxidants and phenolic compounds.

Development and Validation of RP-HPLC Method for the Analysis of CarbimazoleIn Bulk and Marketed Formulation

Miss Hema

Princeton College of Pharmacy

ABSTRACT

A simple and reproducible method was developed for carbimazole by Reverse Phase High Performance Liquid Chromatography (RP-HPLC). Carbimazole was separated on C18 column [4.6x250mm, particle size 5µm] at the UV detection of 291nm. Methanol and OPA (0.1%) was used as a mobile phase with various ratios and flow rates, eventually 80:20 v/v Methanol and OPA (0.1%) was being set with the flow rate of 0.7mL/min. The statistical validation parameters such as linearity, accuracy, precision, inter-day and intra-day variation were checked, further the limit of detection and limit of quantification of carbimazole concentrations were found to be within the limits. Recovery and assay studies of carbimazole were within 99 to 102% indicating that the proposed method can be adoptable for quality control analysis of carbimazole.

ISBN: 978-93-88746-31-1

Simultaneous Development and Validation of Hptlc Method for Determination of Zonisamide and Cilostazol

Viyyapu Ramesh Naidu

Princeton College of Pharmacy

ABSTRACT

A simple, precise, specific and accurate HPTLC method as per ICH guidelines has been developed and validated for estimation of Zonisamide and Cilostazol in synthetic mixture.The separation was carried out on HPTLC Aluminium plates pre-coated with silica-gel 60 F254 (10 ×10 cm) using Ethyl acetate: chloroform (6:4 v/v) as mobile phase. HPTLC separation of the two drugs followed by chromatographic measurement was carried out in the absorbance mode at 254nm. The drugs were resolved satisfactorily with Rf values of 0.76 ± 0.2 and 0.46 ± 0.2 for Zonisamide and Cilostazol respectively. The linear regression analysis data for the calibration plots showed good linear relationship with R2 =0.999 and 0.999 for Zonisamide and Cilostazol respectively in the concentration range of 100-600 ng/spot for Zonisamide and 100-600 ng/spot for Cilostazol. The method was validated for accuracy, precision, specificity and robustness. The percentage recoveries of Zonisamide and Cilostazol were found to be 98.5-100.12% and 99.2-100.11% respectively. The developed methods were validated statistically. The suitability of methods for quantitative determination of these compounds is proved by validation in accordance with the requirements of ICH Guidelines.

ISBN: 978-93-88746-31-1

Mucoadhesive GelatinBuccal Films with Propranolol Hydrochloride: Evaluation of Mechanical, Mucoadhesive, and Biopharmaceutical Properties

UjjwalaKonduru

Princeton College of Pharmacy

ABSTRACT

This study processes and characterizes propranolol hydrochloride/gelatinmucoadhesivebuccal films. Two types of gelatin are used: Gelatin from porcine skin, type A (GA), and gelatin from bovine skin (GB). The influence of gelatin type on mechanical, mucoadhesive, and biopharmaceutical characteristics of buccal films is evaluated. Fourier-Transfer infrared spectroscopy (FTIR) and differential scanning calorimetry (DSC) analysis show that GA with propranolol hydrochloride (PRH) in the film (GAP) formed a physical mixture, whereas GB with PRH (GBP) form a compound-complex. Results of mechanical testing (tensile test, hardness) revealed that GAP films exhibit higher elastic modulus, tensile strength, and hardness. A mucoahesion test shows that GBP has higher adhesion strength, while GAP shows higher work of adhesion. Both in vitro release study and in silico simulation indicated that processed films can provide effective drug transport through the buccal mucosa. In silico simulation shows improved bioavailability from buccal films, in comparison to the immediate-release tablets-indicating that the therapeutic drug dose can be markedly reduced.

Flavosomes, novel deformable liposomes for the co-delivery of anti-inflammatory compounds to skin

HarikiranLingabathula

Princeton College of Pharmacy

ABSTRACT

Flavosomes, novel deformable liposomes for the topical delivery of anti-inflammatory compounds have been developed and characterized in this study. The carriers were prepared by incorporating flavonoids, specifically quercetin and dihydroquercetin, into transfersome and evaluated as a potential topical delivery system for meloxicam (MX), a potent hydrophobic NSAID (non-steroidal anti-inflammatory drug). Characterization of the flavosomes was conducted in terms of their vesicle size, zeta potential, entrapment efficiency and deformability index. The dermal and transdermal delivery of meloxicam using these formulations has the potential of being a promising alternative to conventional oral delivery

ISBN: 978-93-88746-31-1

of non-steroidal anti-inflammatory drugs (NSAIDs) with enhanced local and systemic onset of action and reduced gastrointestinal side effects.

Non-Steroidal Anti-Inflammatory Drugs Loaded Liposomes for Topical Treatment of Inflammatory and Degenerative Conditions

Banuvari Sandeep

Princeton College of Pharmacy

ABSTRACT

Topical administration of drugs presents some advantages over other routes; the drug can be administered in the anatomical region to be treated, limiting the systemic distribution and side effects. However, the structure of the skin makes it a highly effective barrier to drug permeation. Amongst the strategies to overcome this obstacle, liposomes are interesting vehicles for delivering the drugs into the skin, the synovial cavity or other regions affected by inflammatory or degenerative conditions. Liposomes are lipid carriers of nanometric size formed by phospholipid bilayers. They have the advantages of preparation feasibility and biological compatibility associated with the possibility of carrying either lipophylic and/or hydrophylic compounds, and have been extensively used in various drug delivery systems, for drug targeting, controlled release and permeation enhancement of drugs. Conventional liposomes are not very stable and not suitable for dermal administration after topical application, since they accumulate on the skin surface due to the rigidity of the lipid layers and suffer dehydration, culminating in their fragmentation. Other formulations have emerged in the meantime, such as transfersomes, niosomes or ethosomes. The present work consists of a review on the published scientific papers regarding the development of liposomal formulations containing non-steroidal anti-inflammatory drugs for the purpose of relieving the symptomatology of inflammatory and degenerative ailments. The exposition summarizes data relating to liposome type, composition, preparation method, liposome characterization, topical vehicle used, in vitro permeation studies performed, in vivo anti-inflammatory assays carried out and results obtained in the different studies published in the last five years.

ISBN: 978-93-88746-31-1

Design and Evaluation of Controlled Release Matrix Tablet of Aspirin by Using Hydrophobic Polymer

Zareena Begum shaik

Princeton College of Pharmacy

ABSTRACT

Controlled-release of aspirin would be useful in the management of arthritis by administering it at bed-time. Moreover, it could be potentially helpful in reducing the gastrointestinal side effects of aspirin. The circadian rhythm of pain, in rheumatoid arthritis (RA), Joint stiffness and pain are more frequent in the morning. Four formulations F1-F4 of controlled release Aspirin were prepared using different concentrations of the polymer ethyl cellulose through direct compression by geometrically mixing method. Namely they are F1, F2, F3 and F4 using 5%, 10%, 15% and 20 % EC respectively. The aim of present study was to study the effect ethyl cellulose concentration on the release profiles of Aspirin. All the prepared tablet formulations showed good tableting characteristics. In this study, the release of all the formulations followed first-order kinetics and the drug was released via anomalous release mechanism. Therefore, diffusion together with erosion were involved in the drug release from these formulations. By using 10% of ethyl cellulose onwards, it was possible to sustain the release of aspirin. By increasing the concentration of the polymer, the rate of drug release from its matrix decreased. In this study, we studied the release for 10 hours. The formulation F1 did not achieve controlled release of Aspirin. More than 80% of Aspirin was dissolved within the first 4 hours. On the other hand, formulation F3 and F4 showed a controlled release for ten hours, with 50.81-64.634% of drug was released. The formulation F2 showed the best dissolution profile for controlled release Aspirin tablets, where it released 88.87% of the drug at the tenth hour. Therefore, formulation F2 was the best formulation for relieving arthritis if administered at or before bed-time compared to formulation F3 and F4.

ISBN: 978-93-88746-31-1

Preparation, evaluation and hair growth stimulating activity of herbal hair oil

PashamAnusha

Princeton College of Pharmacy

ABSTRACT

Herbal formulations always have attracted considerable attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. The objective of present study involves preparation of herbal hair oil using amla, hibiscus, brahmi, methi and its evaluation for increase in hair growth activity. Each drug was tested for their hair growth activity in a concentration range for 1-10% separately. Based on these results mixture of crude drugs fruits of Embelicaofficinalis, flowers of Hibiscus rosasinensis, leaves of Bacopamonnieri and seeds of Trigonellafoenumgraecum were prepared in varying concentration in the form of herbal hair oil by three different oils preparation techniques (direct boiling, paste and cloth method) and were tested for hair growth activity. The oil of different concentrations were characterized for proximate analysis including moisture content, total ash, acid insoluble ash, water soluble ash, water insoluble ash, sulphated ash. The formulations were also subjected to chromatographic determination and chemical tests to determine the presence of active constituents in the drugs. But looking towards the formulation viscosity the maximum concentration of combined drug was found to be 30% at their maximum level. The formulation containing 7.5% of each drug used for the study and showed excellent hair growth activity with standard (2% minoxidilethanolic solution) by an enlargement of follicular size and prolongation of the anagen phase. It holds the promise of potent herbal alternative for minoxidil. Excellent results of hair growth were seen in formulation prepared by boiling method of oils preparation technique.

ISBN: 978-93-88746-31-1

Formulation and evaluation of a vitamin C multiple emulsion

Malothu Suresh

Princeton College of Pharmacy

ABSTRACT

Multiple phase emulsions are increasingly used as alternatives to simple emulsions in personal care products. One of the major advantages of these emulsions over simple emulsions is slow and controlled release of their ingredients. Other favorite cosmetic characteristics of multiple emulsions include occlusivity (in O/W/O emulsions), esthetics and consumer acceptance. Vitamin C (ascorbic acid) has been widely used in formulations of skin care products. Due to its effects on collagen biosynthesis, it is considered as moisturizing and anti-aging active ingredient. Instability problems such as oxidation susceptibility have made incorporating vitamin C in topical formulations a challenging issue. The O/W/O emulsions have been formulated using two-step procedure, to investigate vitamin C stability and its release profile. By using different surfactant types and ratios, volume ratio of phases, multiple emulsions containing vitamin C were prepared. Different parameters and formulation factors such as temperature of phases, duration and speed of mixing were evaluated. Based on our results, more stable emulsions were prepared from non-ionic siliconized surfactants, sorbitan derivatives and co-surfactants such as polyglyceryl derivatives. Physical stability was determined by microscopic examination, centrifugation and incubating emulsions in different temperatures. Vitamin C in vitro release studies from O/W and O/W/O emulsions were conducted using Franz diffusion cell (at room temperature) and UV spectrophotometry. The results showed that in the first four-hour period, about 14% of vitamin C released from O/W/O emulsions. It appears that in multiple emulsions the profile of release follows zero-order kinetics. Our data indicate that incorporating vitamin C in multiple emulsions significantly increased its stability possibly attributed to the formation of reverse micelles of surfactants (and/or co-surfactants), which entrapped vitamin C inside the micelles surrounded by hydrophilic heads of surfactant. Moreover, vitamin C was released from multiple emulsions in a zero order slow and controlled release manner.

ISBN: 978-93-88746-31-1

Development of Clotrimazole Multiple W/O/W Emulsions as Vehicles for Drug Delivery: Effects of Additives on Emulsion Stability

RabiaSadaf

Princeton College of Pharmacy

ABSTRACT

Multiple emulsions have attracted considerable attention in recent years for application as potential delivery systems for different drugs. The aim of the present work is to design a new formulation containing clotrimazole (CLT) loaded into multiple emulsions by two-step emulsification method for transdermal delivery. Different ingredients and quantities like primary and secondary co-emulsifiers and the nature of oily phase were assayed in order to optimize the best system for good. Resulting formulations were characterized in terms of droplet size, conductivity, pH, entrapment efficiency, rheological behavior, and stability under various storage conditions for 180 days. pH values of multiple emulsions containing CLT ranged from 7.04 ± 0.03 to 6.23 ± 0.04. Droplet size increased when increasing concentration of sorbitan stearate. The addition of polysorbate 80 resulted in significant decrease of oil droplet size comparing with those prepared without this. CLT entrapment efficiency ranged between 85.64% and 97.47%. All formulations exhibited non-Newtonian pseudoplastic flow with some apparent thixotropic behavior. Cross and Herschel-Bulkley equations were the models that best fitted experimental data. In general, the addition of 1% polysorbate 80 resulted in a decrease of viscosity values. No signals of optical instability were observed, and physicochemical properties remained almost constant when samples were stored at room temperature after 180 days. On the contrary, samples stored at 40°C exhibited pronounced increase in conductivity values 24 h after elaboration and some of them were unstable after 180 days of storage. JMLP01 was proposed as an innovative and stable system to incorporate CLT as active pharmaceutical ingredient.

ISBN: 978-93-88746-31-1

Recent advancements in liposome technology

Jakkulaasrikanth

Princeton College of Pharmacy

ABSTRACT

The liposomes have continued to be well-recognized as an important nano-sized drug delivery system with attractive properties, such a characteristic bilayer structure assembling the cellular membrane, easy-to-prepare and high bio-compatibility. Extensive effort has been devoted to the development of liposome-based drug delivery systems during the past few decades. Many drug candidates have been encapsulated in liposomes and investigated for reduced toxicity and extended duration of therapeutic effect. The liposomal encapsulation of hydrophilic and hydrophobic small molecule therapeutics as well as other large molecule biologics have been established among different academic and industrial research groups. To date, there has been an increasing number of FDA-approved liposomal-based therapeutics together with more and more undergoing clinical trials, which involve a wide range of applications in anticancer, antibacterial, and antiviral therapies. In order to meet the continuing demand for new drugs in clinics, more recent advancements have been investigated for optimizing liposomal-based drug delivery system with more reproducible preparation technique and a broadened application to novel modalities, including nucleic acid therapies, CRISPR/Cas9 therapies and immunotherapies. This review focuses on the recent liposome' preparation techniques, the excipients of liposomal formulations used in various novel studies and the routes of administration used to deliver liposomes to targeted areas of disease. It aims to update the research in liposomal delivery and highlights future nanotechnological approaches.

ISBN: 978-93-88746-31-1

Formulation And Evaluation Of Polyherbal Cold Cream

Bhargavi

Princeton College of Pharmacy

ABSTRACT

Herbal cosmetics are the preparations are used to beautify and enhance the human appearances. The aim of the present research was to formulate and evaluate the herbal cold containing plant extracts prepared by using water in oil method for the purpose of nourishing and moistening the skin. The cold cream is prepared by using the neem oil and extract of turmeric. Quality evaluation of the formulated product was assessed by using different evaluation methods. No change of the physical properties was observed in formulated cream. The formulated cream showed good consistency and spread ability, homogeneity, pH, non-greasy, no evidence of phase separation during study period of research. Stability parameters like visual appearance, nature, viscosity and fragrance of the formulated cream showed that there was no significant variation during the study period of research. The herbal extract containing cold cream gives the cooling and soothing effect due to slow evaporation of water present in the emulsion. The cold creams are more moisturizing as they provide an oily barrier which reduces the water loss from the stratum corneum, the outermost layer of the skin. They are water-in-oil emulsion and intended for application on skin or accessible mucous membrane to provide localized and sometimes systemic effect at the site of application.

ISBN: 978-93-88746-31-1