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3..2.1(6) Books Published During Last Five Year

Sr.No	Faculty Name	Book Name	Publication Year	Publication Name
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2	Dr. Tushar A. Deshmukh (Principal)	Practical Instrumental Method Of Analysis	2018	S. Vikash & Co Publishing House, Jalandhar
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1	New Stability Indicating RP HPLC Method for Estimation of the Drug Molnupiravir	Dr Khushabu R Patil	International Journal of Pharmaceutical Quality Assurance	2023
2	Simultaneous Estimation Of H2 Blockers Gerd Dosage Forms By Using HPLC Method	Dr Khushabu R Patil	European chemical bulletin	2023
3	Stability indicating HPLC method development and validation of Fostemsavir in bulk and marketed formulations by implementing QbD approach	Dr Khushabu R Patil	International Journal of Experimental Research and Review	2023
4	Pharmacognostical Evaluation of Indian Medicinal Plant AltentheraFicoidea and PolianthesTuberosa for Anti Diabetic Activity	NileshBhagvatChaudhari	Journal of Advances and Scholarly Researches in Allied Education	2022
5	Vesicular carriers for boosting the transdermal delivery of diacerin statistical optimazation and evaluation	Dr.Tushar A Deshmukh	The journal of oriental research madras	2022
6	Pharmacognostical, Phytochemical and Ethnobotanical Based Pharmacological Evaluation of Some Indian Medicinal Plants	NileshBhagvatChaudhari	AIRO Journals	2022
7	Compartive study of vesicular carriers for boosting the transdermal delivery of diacerein	Dr.Tushar A Deshmukh	Wesleyan journal of research	2021
8	A Stability Indicating HPTLC Method Development And Validation For Analysis Of	Khushabu R Patil	INTERNATIONAL JOURNAL OF PHARMACEUTICAL	2020

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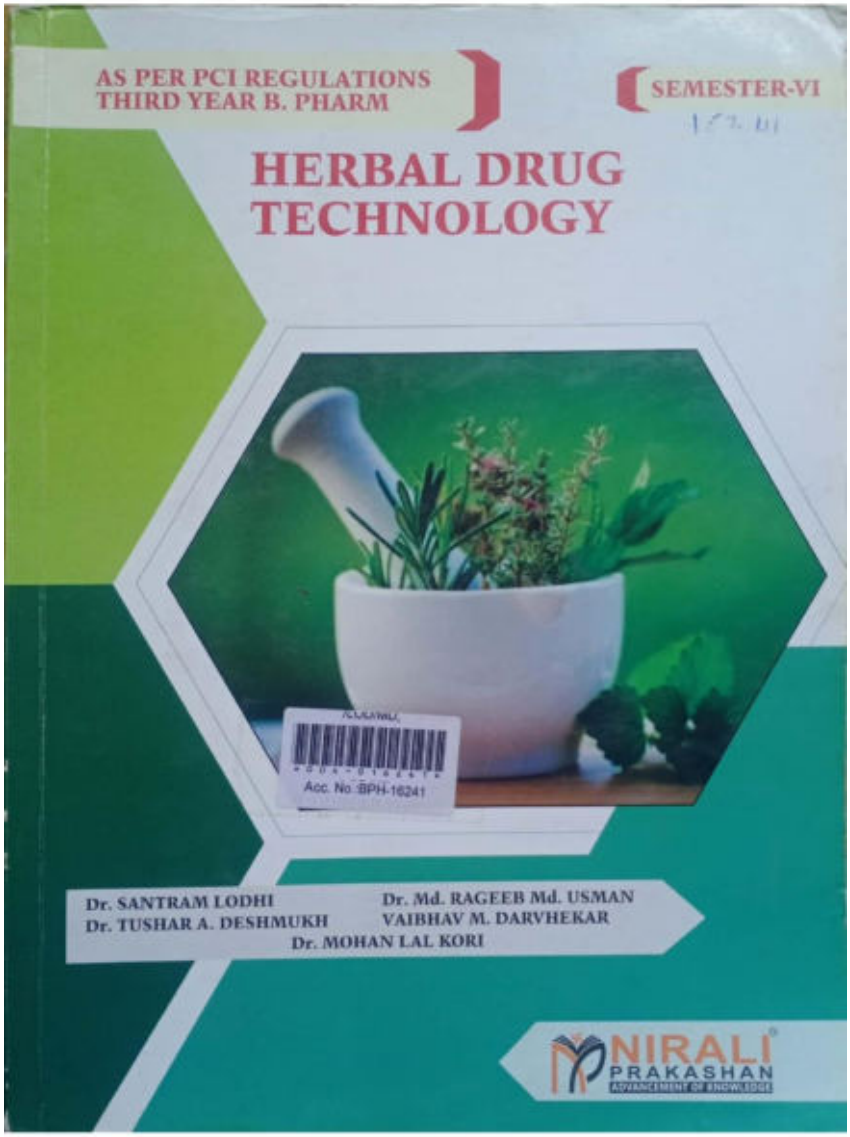

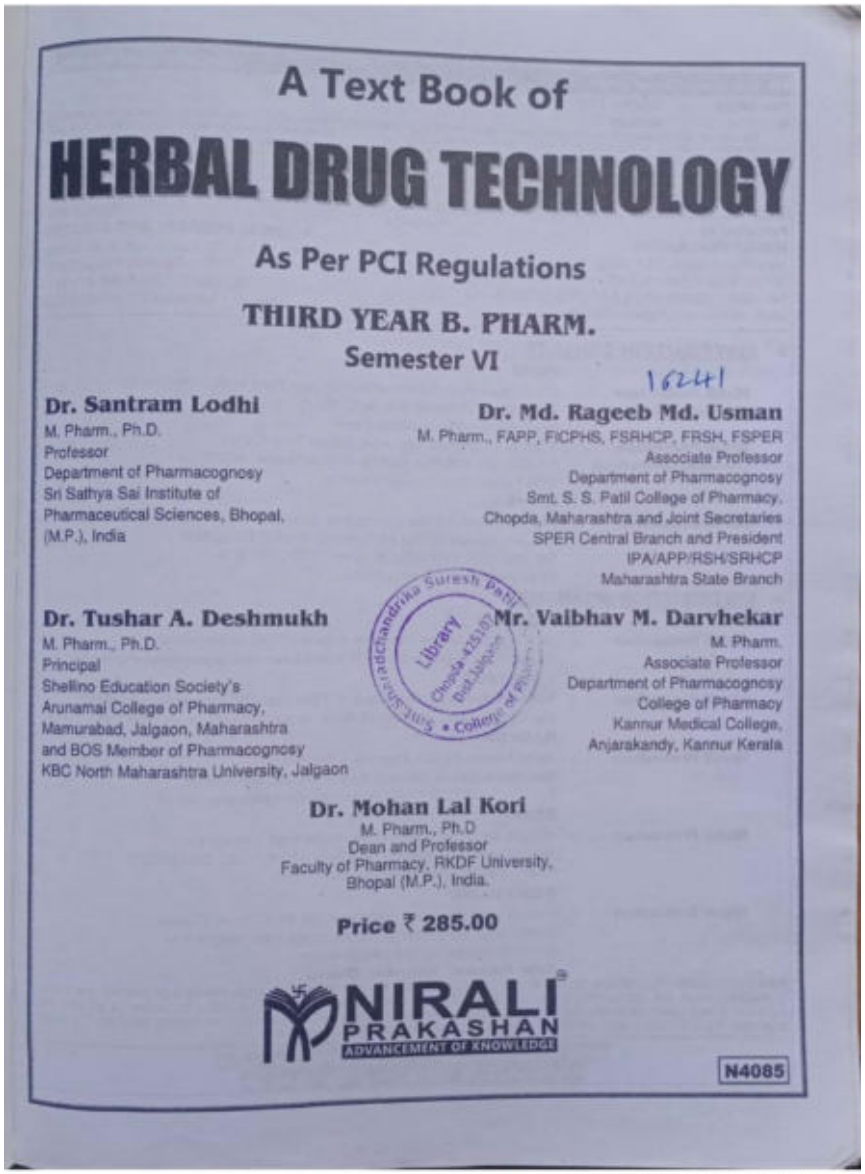

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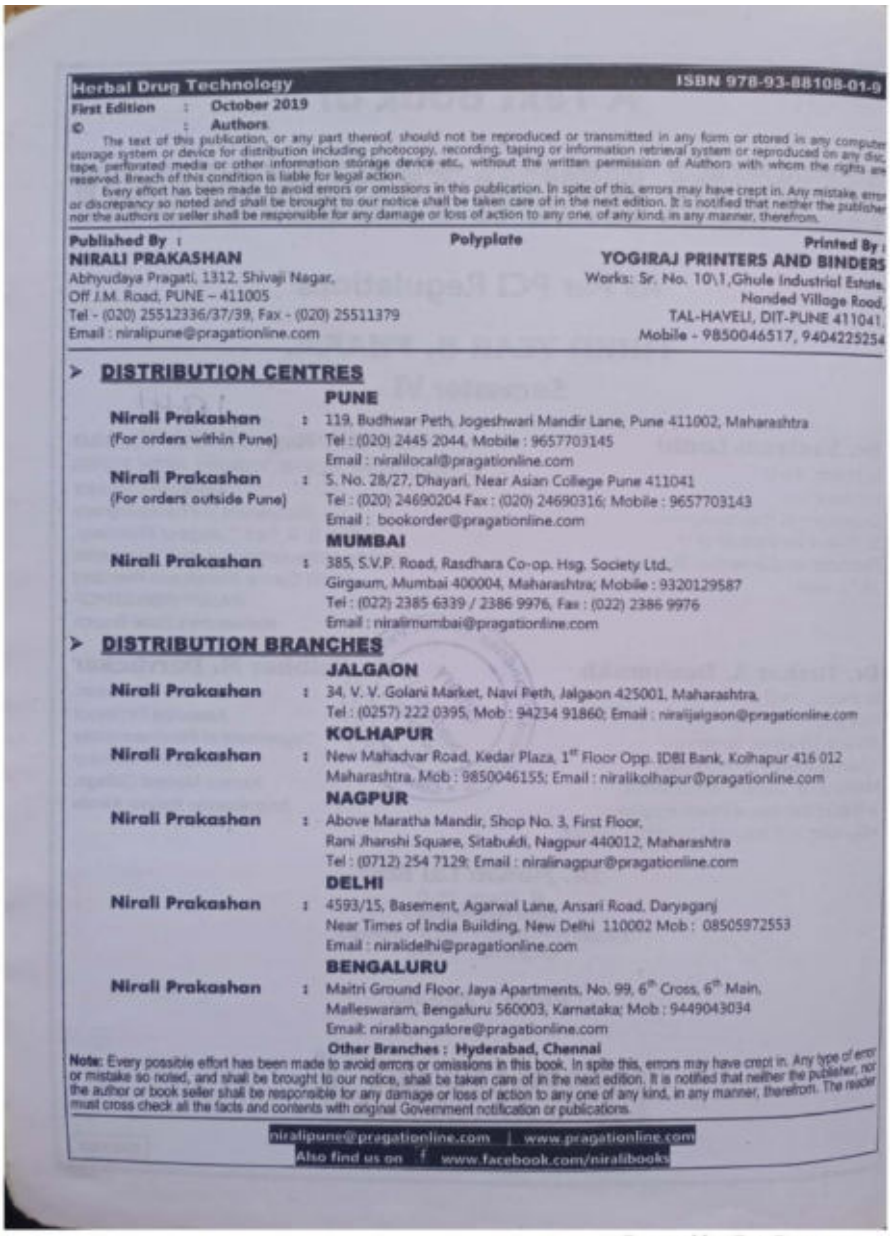

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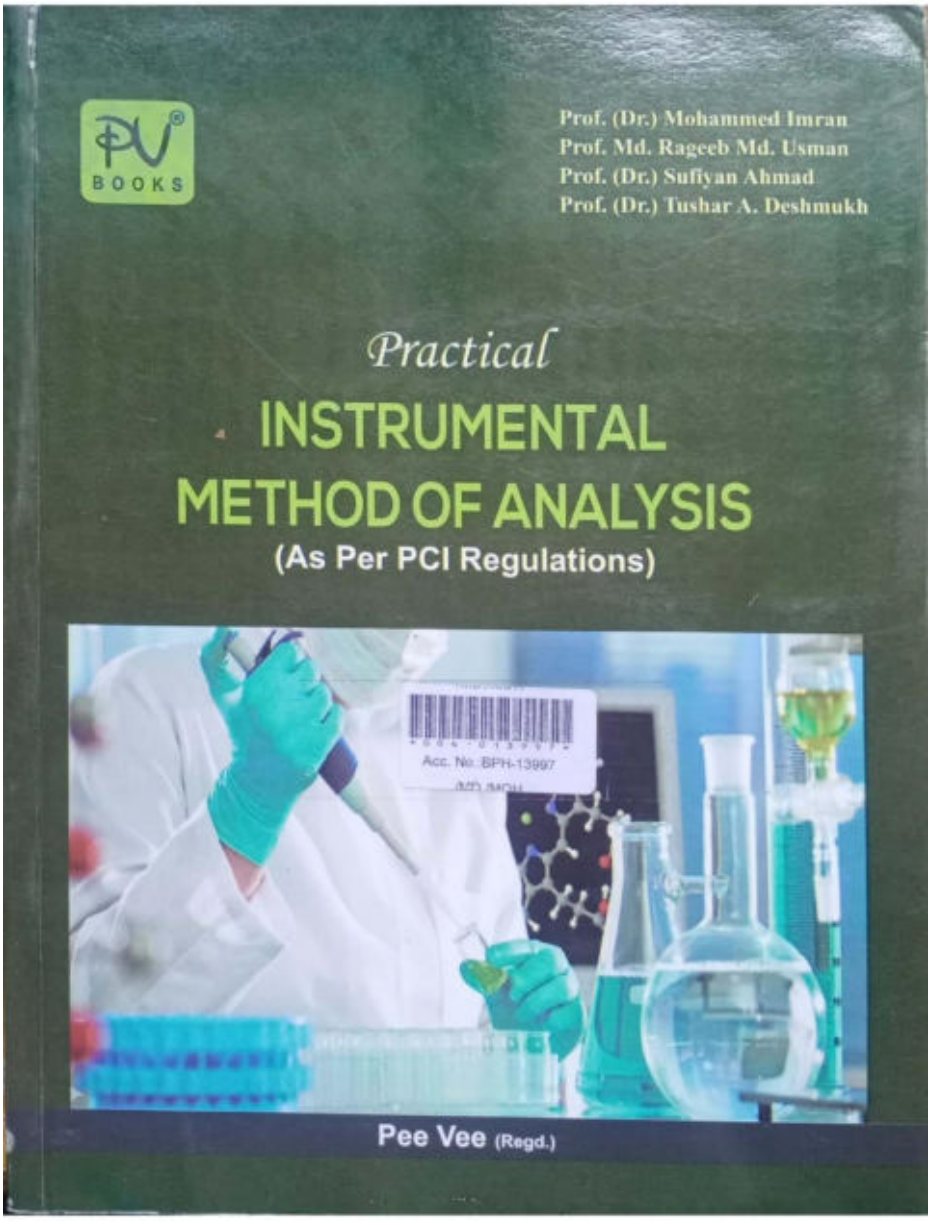

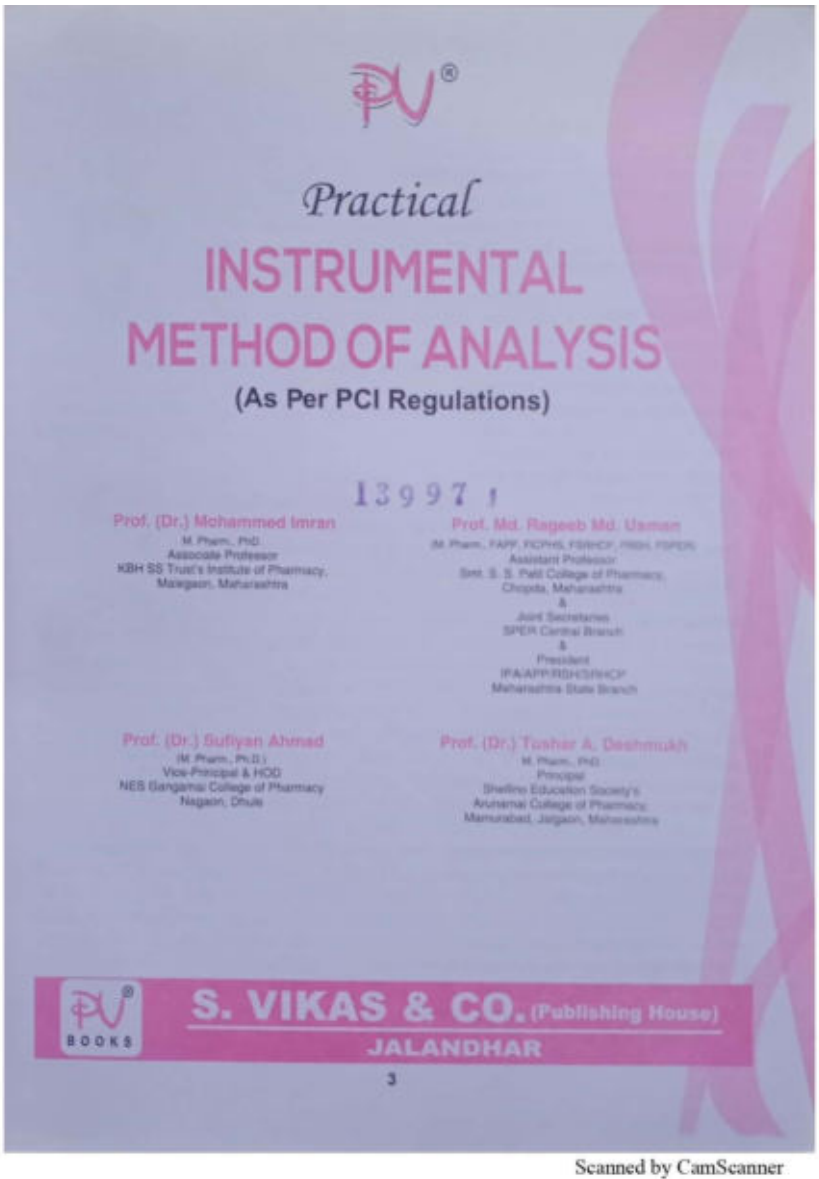

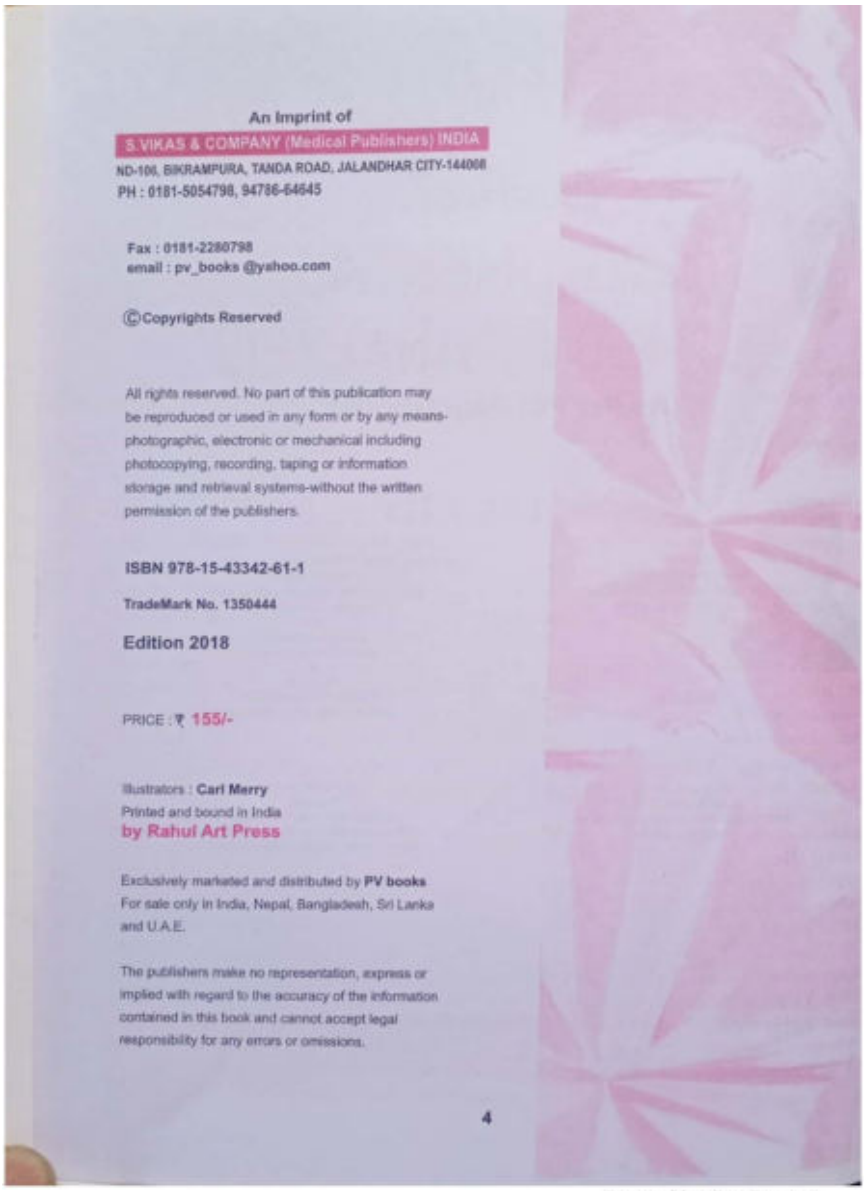

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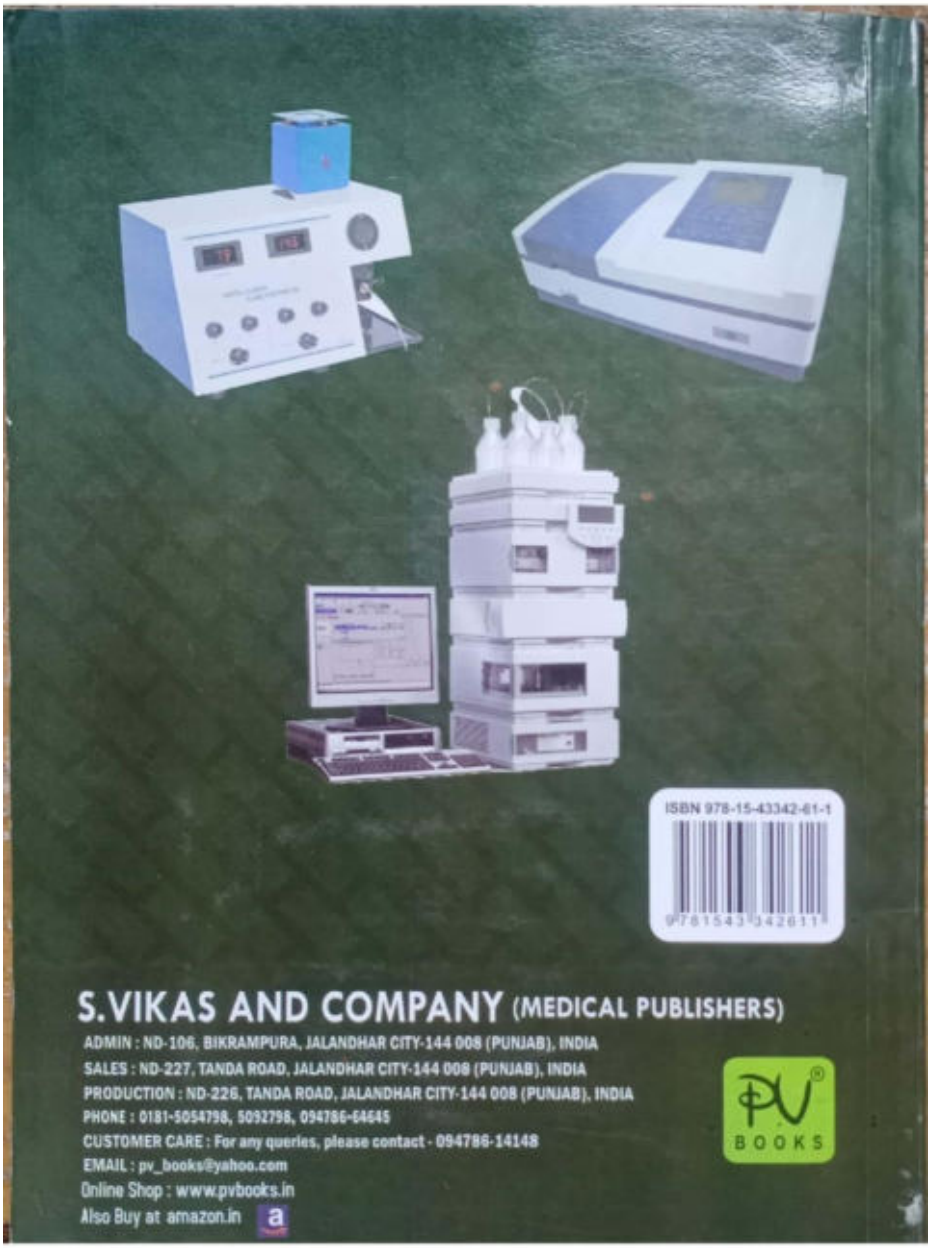

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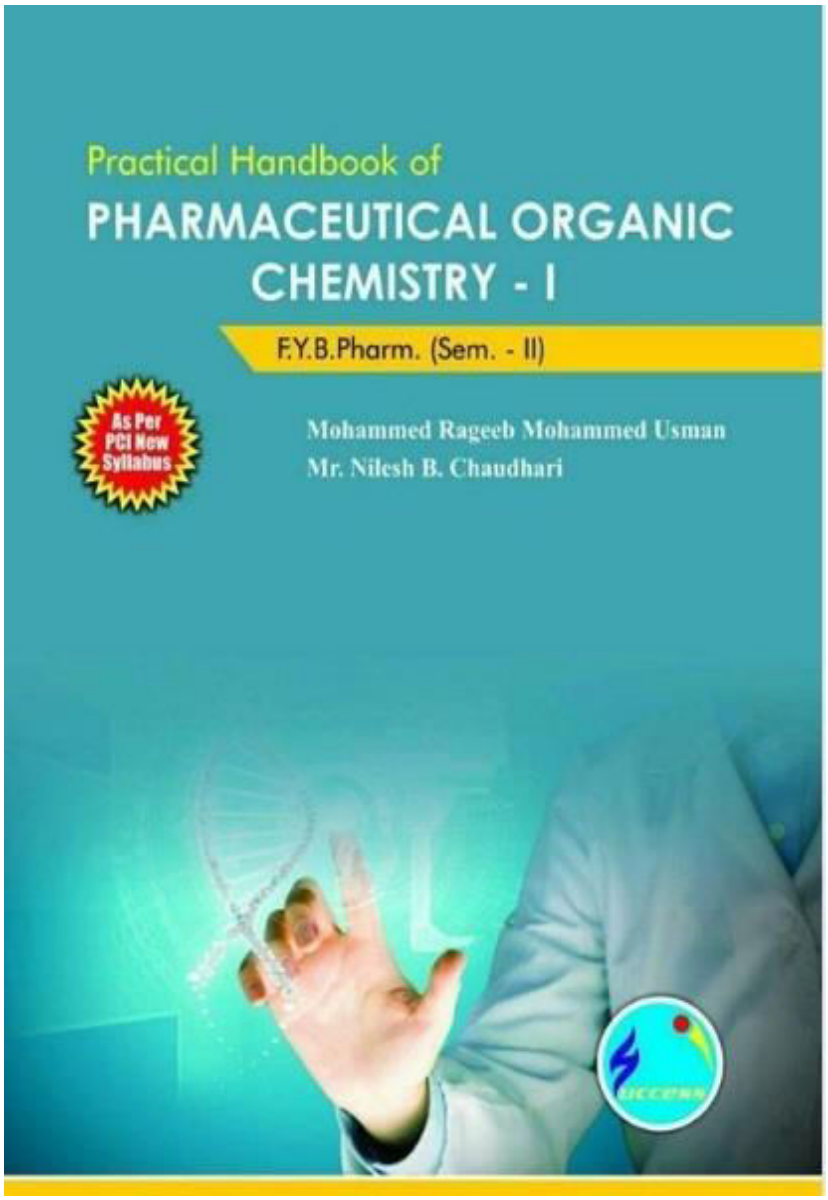

Section A-Research paper

ISSN 2063-5346

SIMULTANEOUS ESTIMATION OF H2 BLOCKERS GERD DOSAGE FORMS BY USING HPLC METHOD

[1]Sujata V. Wankhede, [2]Vijaya Durga Dumpala, [3]Bindiya Chauhan, [4]Khushabu Ramesh Patil, [5]Baljinder Singh Bajwa, [6]Ceema Mathew, [7]Nikita Kishor Kale, [8]Archana Pramod Shaha

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doi: 10.48047/ecb/2023.12.si6.375

Abstract

The simultaneous analysis of Lafutidine and Domperidone Maleate in tablet form has been analysed using an HPLC method that has been developed and verified. At a flow rate of 1.0 mL/min and using UV detection at 222 nm, drugs were separated chromatographically using a Hypersil BDS C8 column (250 mm x 4.6 mm, 5) as the stationary phase and a mobile phase of phosphate buffer (pH adjusted to 4.5 with orthophosphoric acid):methanol:acetonitrile in the ratio 55:25:20 (v/v/v). Lafutidine had a retention time of 4.07 minutes, while domperidone took 6.13 minutes. The technique was found to be selective, with clearly distinguishable peaks for Lafutidine and Domperidone (resolution = 9.82). Linearity (R2 = 0.999) and accuracy (99.45-

RESEARCH ARTICLE

New Stability Indicating RP-HPLC Method for Estimation of the Drug Molnupiravir

Mahesh Deshpande[1*], Farhat Shaikh[1], Vijay Sable[2], Khushabu Patil[3], Machchhindra R. Holam[4], Harshal Tare[5]

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Received: 10th January, 2023; Revised: 30th January, 2023; Accepted: 20th February, 2023; Available Online: 25th March, 2023

ABSTRACT

Background: Molnupiravir was granted approval by the UKS medicines and health product regulatory agency on 04 November 2021 and on 23 December 2021, granted emergency use of authorization by FDA.

Objective: Provide a technique for measuring Molnupiravir in active pharmaceutical ingredients and formulations.

Method: The wavelength maximum was found to be 236 nm. ICH guidelines were followed. The forced degradation study in the form of acidic, alkali, thermal, photolytic, hydrolytic, and oxidative stress conditions was carried out for Molnupiravir.

Results: The method was linear, as measured by a coefficient of correlation (R2) of 0.9991 in the 10 to 50 µg/mL range. The %RSD for precision, accuracy, limit of detection (LoD), limit of quantitation (LoQ), ruggedness, and robustness was within acceptable limits per ICH Q2 (R1).

Conclusion: HPLC equipped with a UV detector is used to create and verify the proposed method. An acetonitrile mobile phase component of 20% was used, demonstrating the more cost-effective technique. The extensive data of mobile phase optimization gives a complete idea of final chromatographic conditions, which can be further implemented for future analysis. Molnupiravir shows less than 4% degradation under different stress conditions. The forced degradation data helps show stability, indicating the behavior of Molnupiravir.

Keywords: Molnupiravir, COVID-19, RP-HPLC, Forced degradation.

International Journal of Pharmaceutical Quality Assurance (2023); DOI: 10.25258/ijpqa.14.1.26

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INTRODUCTION

The Molnupiravir (C2R, 3S, 4R, 5R)-3, 4-dihydroxy-5-((4Z)-4-(hydroxyimino)-2-oxo-3, 4-dihydropyrimidine-1(2H)-yl oxolan-2-yl) methyl 2-methyl propanoate having antiviral action[1]. Molnupiravir was granted approval by the UKS medicines and health product regulatory agency on 04 November 2021 and, on 23 December 2021, granted emergency use authorization by FDA[2]. As Molnupiravir was recently approved for COVID-19, three methods are available, including HPLC, UV, and LC-HRMS as a single or combined with another drug. One bioanalytical method for its metabolite is available. There is no economical method available as in all the methods, and acetonitrile is one of the components of the mobile phase. Also, mostly hyphenated techniques were implemented for analysis.[3-6]

Analysis of Physical Characteristics

The physical characteristics like practical solubility, melting point, and IR interpretation of the Molnupiravir were performed before starting method development (Tables 1-3 and Figure 1).[7-10]

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Stability indicating HPLC method development and validation of Fostemsavir in bulk and marketed formulations by implementing QbD approach

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Keywords:
Fostemsavir, HPLC, Quality Control, Quality by Design

Abstract: Achieving a predictable degree of quality with intended and planned specifications is known as quality by design (Quality-by-Design). QbD is an alternative to conventional method development that places more attention on identifying and mitigating potential risks. Component of the Quality-by-Design methodology involves conducting a series of experiments to learn how various factors, including the dependent variables, affect the answers of interest. Here, we use a QbD loom to detail the creation and verification of a stability-indicating high-performance liquid chromatography (HPLC) method for Fostemsavir in both bulk and finished-goods forms. This work presents a workable experimental design for optimising the RP-HPLC separation technique by identifying the optimum mobile phase concentration and flow rate. Here, we propose a practical experimental layout for determining the RP-HPLC separation technique's optimal mobile phase concentration and flow rate. Using Design Expert version 13.0, the optimum chromatographic conditions were determined to be as-Shim-pack GIST C18 (250 mm × 4.6 mm × 5.0 µm), mobile phase acetonitrile to 1% formic acid (80:20, v/v), flow rate 0.8 ml/min, and retention period 3.24 min. At a detection wavelength of 266 nm, it was discovered that the devised technique was linear over a concentration range of 50-90 µg/ml (r^2 = 0.997). Test parameters for the system's appropriateness were determined to be 1.124 for the tailing factor and 9480 for the theoretical plates. Intraday RSD was found to range from 0.70 to 0.94, whereas interday RSD was found to range from 0.55 to 0.95 percent. Values for robustness were under 2%. The solution stability % RSD was calculated to be 0.83. The result of the assay was 100.05 percent. The created methodologies were used for studies of forced degradation, and the stressed materials were analysed. The parameters used to validate the procedure fell within the acceptable range recommended by ICH. Using Design Expert 13.0, we created a central composite design experiment that illustrates the relationships between the mobile phase and flow rate across three levels, with retention duration, tailing factor, as well as theoretical plates as the responses of interest. By this work, we gain insight into the variables that affect chromatographic separation and strengthen our conviction that HPLC method will serve industrial needs. Quantitative method development was applied to improve comprehension of multi-tiered method variables.

Introduction

Fostemsavir was approved in 2020 by USFDA. Fostemsavir chemically, {3-[(4-Benzoyl-1-piperazinyl) (oxo) acetyl]-4-methoxy-7-(3-methyl-1H-1, 2, 4-triazol-1-yl)-1H-pyrrolo[2, 3-c] pyridin-1-yl} methyl dihydrogen phosphate. The molecular weight of Fostemsavir is 583.498 g.mol^{-1}, and its chemical formula is $C_{37}H_{48}N_4O_{5}$. HIV entry inhibitor fostemsavir is a temsirolimus prodrug

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Pharmacognostical Evaluation of Indian Medicinal Plant *Altenthera Ficoidea* and *Polianthes Tuberosa* for Anti-Diabetic Activity

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Abstract - In the given article we had done the in-vitro anti-diabetics analysis of the plant Alternanthera ficoidea and Polianthes tuberosa with their phytochemical analysis we had first of all collected the plant and washed it properly with water then after we had washed several times with different solvent after that we had taken its ash value and foreign mater then after we had investigated it. Throughout the whole study we find the result more satisfying and it is also suggestive for further investigation.

Keywords - Anti-diabetics, Polianthes tuberosa, Alternanthera ficoidea, In-vitro, Phytochemical.

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1. INTRODUCTION

The Ayurveda, one of the oldest traditional systems of medicines, is based on utilities of medicinal plants. The spine of Ayurveda and other traditional system of medicines is medicinal plants. Human society depends on pants and plants product for their sustainable development and maintenance of good health. Medicinal plants are used by humans for both the treatment and prevention of various diseases from ancient time just because they contain medicinal property. The medicinal plants or its specific parts that contain various phytoconstituents are helpful in the treatment as well as management of various chronic diseases [1-3]. The use of medicinal plants as therapy is increasing day by day that leads to exploration of traditional system of medicine in worldwide. The medicinal plant extracts are rich with minerals, primary metabolites and secondary metabolites, which are effective against various diseases

2. MATERIAL AND METHODS

Powder microscopy study:

The powder microscopy study was performed by taking 2-gm dried powder of whole plant of AF and treated with chloral hydrate solution, followed by washed with distilled water. The treated plant powder drug of both plants were stained in a slide and mounted with glycerin. The photographs of powder microscopic study were taken to find microscopical components present in the plant drug by Dewinter Binocular electronic digital microscope [4-6].

Physicochemical studies

In this study physicochemical parameters were evaluated as per the guidelines recommended by WHO and illustrations made in previous research papers. The whole plant materials of both plants AF were dried at room temperature, under shade for two weeks. The dried plant material of both plants were made to reduced size and converted into course powder by grinder. Physicochemical parameters like various ash values, loss on drying, swelling index, foaming index, extractive values and fiber content were carried out on powdered plant material of AF and PT to standardized the raw material. This study will be useful for authentication of raw material [7-8].

Ash value

(a) Total ash:

It is the value obtained for a crude drug after igniting the raw materials. 2 gm powder drug of the plant material of AF were placed in furnace with a silica crucible and incinerated at temperature near about 450 °C until it become free from carbon. Before placing the raw material, the crucible was ignited and tarred for accurate measurement. The ignited materials were cool down in a desiccator and weighted in an electronic balance to get % of total ash content (in w/w) with respect to the total raw material of individual plant.

(b) Acid insoluble ash:

In this study, the half quantity of the total ash of the raw material of both plant AF were boiled with 25 ml HCl (2N) for 5 minutes, that covered with watch glass and insoluble inorganic material was collected by an ash less filter paper by filtration technique. Then hot water was used to wash the material, to

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Pharmacognostical, Phytochemical and Ethnobotanical Based Pharmacological Evaluation of Some Indian Medicinal Plants

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Abstract

Medicinal plants are used as medicine for the treatment and management of various diseases from ancient time in all over the world. Medicinal plants are used as fresh, in the form of dried crude powder or in the form of extract. These medicinal plants are rich with multiple phytoconstituents but only rich with few as major phytoconstituents. Mostly by considering the major phytoconstituents adhere to the plants, they are used as medicinal against for the management and treatment of various physiological disorders. Commercially so many synthetic pharmaceutical formulations are available for the treatment of various physiological disorders, but in addition to their therapeutic potential, they have many harmful side effects as compare to the plant originated drug, which have no or less side effect.

Keywords: Phytoconstituents, Physiological, Crude, Formulations, Therapeutic

1. Introduction

VESICULAR CARRIER FOR BOOSTING THE TRANSDERMAL DELIVERY OF DIACEREIN: STATISTICAL OPTIMIZATION AND EVALUATION*

BY

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Abstract

Rheumatoid arthritis (RA) is an autoimmune disease that causes chronic inflammation of the synovial membrane and leads to periarticular bone erosion, destruction of articular cartilage, and permanent deformities along with extra-articular disease manifestations. Due to low bioavailability and high clearance rates of currently available drugs, frequent dosing is essential to improve the therapeutic effects which further increases the risk of unwanted side effects. The current study aimed to develop an effective transdermal vesicular carrier of Diacerein that provides enhanced delivery through the skin. Three types of carriers mainly transfersomes, ethosomes and niosomes were investigated and evaluated for vesicles size, zeta potential, entrapment efficiency and in vitro drug release. The drug release data was fitted in different mathematical models such as Zero order, First order, Higuchi, Hixon-crowel and Korsmeyer-peppas to find out the order and mechanism of drug release from all formulations. The experimental results, i.e. size, zeta potential, entrapment efficiency and in-vitro drug release were analyzed and based on the results, one optimized vesicular carrier from each type of vesicular formulation was selected. As compared to optimized Transfersomal and Niosomal formulations, the ethosomal vesicles revealed good entrapment efficiencies (62.23%), nanometric vesicle sizes (231 nm) and negative zeta potential values (-22.98 mV). The evaluation outcomes of ex-vivo studies carried out for transferosomal gel, ethosomal gel, niosomal gel and plain drug gel. It was observed that, maximum permeation (75.81%) of drug across goat skin takes place through ethosomal gel, followed by transferosomal (71.58%) and niosomal (62.24%).

Key words: Diacerein; Transfersomes; Ethosomes; Niosome, Anti-arthritis, etc.

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COMPARATIVE STUDY OF VESICULAR CARRIERS FOR BOOSTING THE TRANSDERMAL DELIVERY OF DIACEREIN

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Abstract: Rheumatoid arthritis (RA) is an autoimmune disease that causes chronic inflammation of the synovial membrane and leads to periarticular bone erosion, destruction of articular cartilage, and permanent deformities along with extra-articular disease manifestations. Due to low bioavailability and high clearance rates of currently available drugs, frequent dosing is essential to improve the therapeutic effects which further increases the risk of unwanted side effects. The aim of current study is to develop Diacerein loaded vesicular carriers for effective transdermal delivery through the skin. Three types of carriers mainly transfersomes, ethosomes and niosomes were investigated using three phospholipids (Soya phosphatidylcholine (SPC), Dimyristoly phosphatidylcholine (DMPC) and Hydrogenated soya phosphatidylcholine (HSPC)), in combination with three different surfactants (Tween 80, Span 80 and Span 20). The prepared vesicular carriers were evaluated for vesicles size, zeta potential, entrapment efficiency and in vitro drug release. The drug release data was fitted in different mathematical models such as Zero order, First order, Higuchi, Hixon-crowel and Korsmeyer-peppas to find out the order and mechanism of drug release from all formulations. As compared to Transfersomal and Niosomal formulations, the Ethosomal vesicles revealed good entrapment efficiencies (68.9±2.2%), nanometric vesicle sizes (241 nm) and negative zeta potential values (-31.93 mV). The evaluation outcomes of in vitro drug release studies carried out for transferosomal, ethosomal and niosomal. It was observed that, maximum release of drug (84.56±1.77%) across diffusion membrane takes place through ethosomal gel, followed by transferosomal (71.58±2.41%) and niosomal (67.22±1.21%).

Key Words: Diacerein; Transfersomes; Ethosomes; Niosome, Anti-arthritis, etc.

Article History

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Introduction:

Transfersomes ethosomes and niosomes are the most investigated enhancing penetration phospholipid vesicles. These innovative systems facilitated abundant research and scientific publications. Small and large active molecules with various lipophilicities were incorporated in these carriers. The systems were investigated for treatment of a wide variety of skin diseases such as inflammation, arthritis, psoriasis, atopic dermatitis, skin cancer and skin pigmentation disorders. Furthermore, systems containing molecules for transdermal delivery to the systemic circulation were investigated for hormone replacement therapy, hypertension, Parkinson's disease, diabetes mellitus, hot flushes, hypertension, psychosis and depression (Ceve & Blume 1992; Touitou et al., 2000 and Yeo et al., 2018).

One of the key advantages of lipid-based formulations is that they encapsulate lipophilic as well as hydrophilic active pharmaceutical agents within the concentric bilayers and central core, simultaneously. Phospholipids self-assemble themselves into vesicles upon direct contact with aqueous medium, when exposed above their phase transition temperature. They are considered both biocompatible and biodegradable due to the nature of phospholipid (Bragagni et al., 2012).

Materials:

Diacerein was provided as a gift sample from AMI Life Sciences Pvt Ltd Karakhadi, Gujarat, Tween 80, Span 80, Span 20, Cholesterol, Soya phosphatidylcholine (SPC), Dimyristoly phosphatidylcholine (DMPC) and Hydrogenated soya phosphatidylcholine (HSPC) were purchased from Hi Media laboratories, chloroform and methanol purchased form S.D Fine chemicals Ltd, Mumbai. All other chemicals and reagents were of analytical grade.

Preliminary studies in Transfersomal formulation for screening of excipients:-

Transfersomes were prepared by a thin-film hydration method, where three different phospholipids Soya phosphatidylcholine (SPC), Dimyristoly phosphatidylcholine (DMPC) and Hydrogenated soya phosphatidylcholine (HSPC) and three different surfactants (i.e. Tween 80, Span 80 and Span20) were used to prepare 18 different transfersomes formulations, employing Diacerein as a model drug at 1% concentration (Table 1). In first a thin film is prepared from the mixture of vesicles forming ingredients i.e. the lipid phase which comprised of phospholipid, cholesterol (with or without) and surfactant. The lipid phase (150 mg) and surfactant (50mg) were dissolved in 10 ml of volatile organic solvent (chloroform:methanol, 1:2) and transferred to a round bottom flask (RBF) (100 ml).

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A STABILITY INDICATING HPTLC METHOD DEVELOPMENT AND VALIDATION FOR ANALYSIS OF VILDAGLIPTIN AS BULK DRUG AND FROM ITS PHARMACEUTICAL DOSAGE FORM

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Keywords:

Vildagliptin, HPTLC, Degradation Studies, Tablet dosage form

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ABSTRACT: Vildagliptin chemically (S)-1-[N-(3-hydroxy-1-adamantyl) glycyl] pyrrolidine-2-carbonitrile, is a potent dipeptidyl peptidase IV (dip-IV) inhibitor, a drug for the treatment of diabetes. DPP-IV inhibitors represent a new class of oral antihyperglycemic agents to treat patients with type 2 diabetes. The Present work describes the development and validation of a new simple, accurate, precise and stability-indicating HPTLC method for the determination of Vildagliptin in the tablet dosage form. The chromatographic separation was achieved by using Chloroform: n-Butanol: Methanol (5:2:3 v/v/v) as mobile phase and UV detection at 227nm. The developed method was validated with respect to linearity, accuracy, precision, the limit of detection, the limit of quantitation and robustness as per ICH guidelines. The described method was linear over a concentration range of 2000-20000 ng/ml for the assay of Vildagliptin. The assay was found to be 99.8%. The limit of detection (LOD) and the limit of quantification (LOQ) for Vildagliptin was found to be 357.31 ng/band and 1082.76 ng/band respectively. The drug was subjected to stress conditions of acid hydrolysis, alkali hydrolysis, photolysis, thermal degradation. Results found to be linear in the concentration range of 2000-20,000 ng/band. The proposed stability-indicating method can be used for the determination of vildagliptin in bulk samples and in the pharmaceutical dosage form.

INTRODUCTION: Vildagliptin chemically (S)-1-[N-(3-hydroxy-1- adamantyl) glycyl] pyrrolidine-2-carbonitrile, is a potent dipeptidyl peptidase IV (dip-IV) inhibitor, a drug for the treatment of diabetes. DPP-IV inhibitors represent a new class of oral antihyperglycemic agents to treat patients with type 2 diabetes.

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DPP IV inhibitors improve fasting and postprandial glycemic control without hypoglycemia or weight gain. Vildagliptin inhibits the inactivation of GLP-1 and GIP by DPP IV, allowing GLP-1 and GIP to potentiate the secretion of insulin in the beta cells and suppress glucagon release by the alpha cells of the Islets of Langerhans in the pancreas [1-4].

A literature survey revealed that few analytical methods such as spectrophotometric [5-7], HPLC [8-11] and LC-MS [12-13] methods have been reported for the estimation of Vildagliptin in alone or in combination with other drugs. The less amount of literature provides the need for developing a new method.

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औद्योगिक संस्थेमध्ये ग्रंथालयाची गरज

सौ. पुष्पा किशोर खडके
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अरुणाताई कॉलेज ऑफ फार्मसी,
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प्रस्तावना

ज्यावेळेस मानवा ने लिपीचा शोध लावला त्यावेळी ज्यावेळेस ही लिपी तो ताडपत्र, भुर्जपत्र, लाकडाच्या सालीवर, धातुपत्रे मातीच्या विटावर दगडावर कोरुन ठेवीत होते. नंतर ते सर्व साहित्य लेखाचे २-५ शेऊन त्यांच्या ग्रंथ तयार झाला.

कालांतराने अनेक ग्रंथाचे मुद्रण झाल्यामुळे ग्रंथालय ही संकल्पना अस्तित्वात येऊन ज्ञानाची वाढ होऊ लागली. ज्ञानाच्या विविध शाखांचे सखोल ज्ञान प्राप्त करण्याचा मार्ग अीयास अनुसरल्याशिवाय विषयतज्ञ तयार होऊ शकत नाही. विषयतज्ञांना त्यांच्या विषयावरील माहिती सुगमतेने मिळत आहे किंवा नाही यावर त्यांच्या संशोधन कार्याचे यश किंवा अपयश अवलंबून असते.

प्रत्येक ग्रंथालय निरनिराळ्या विषयातील प्रसिध्द होणारी सद्य माहिती जमा करुन ठेवू शकत नाही. यातून मार्ग काढण्यासाठी विशेष ग्रंथालय + उदयास आली या ग्रंथालयातुनच विशिष्ट विषयावरील माहिती एकत्रित केली जाते. अशा विशिष्ट विषयावरील ग्रंथालयांना विशेष ग्रंथालय असे नाव देण्यात आले.

औद्योगिक ग्रंथालय हे विशेष ग्रंथालयाचा एक भाग आहे औद्योगिक ग्रंथालयात उत्पादन क्षमता वाढविण्यासाठी आवश्यक ती माहिती, नवे विचार वैज्ञानिक व तांत्रिक संशोधन यांची अद्ययावत माहिती संशोधन व तंत्रज्ञ यांना उपलब्ध करुन देणे हा उद्देश असतो.

ग्रंथालय

अतिप्राचीन काळापासून भाषेच्या माध्यमातुन मानव आपले विचार एक दूसऱ्याला सांगण्याचे काम करीत होते मानवाने आपले विचार पाहिले दगडावर, झाडाच्या सालीवर, चांमडे मातीवर, धातुवर चित्रे कोरुन केलेले आढळते. त्यानंतर काळात लिपी अस्तित्वात आली आणि ग्रंथ संपदा तयार होऊ लागली कारण ही ग्रंथसंपदा त्या काळात दुर्लक्ष होती.

हे ग्रंथसंग्रह जनत करण्याचे काम राजराजवाडे सरदार जहागीरदार यांच्याकडे वंश परंपरेने पाळली जात होती यमुळे फक्त ठराबीक वर्गालाच या ग्रंथसंग्रहाचा उपयोग घेता येत होता. त्यामुळे असे खाजगी ग्रंथ संग्रह म्हणजे मर्यादित स्वरुपात ग्रंथालय अस्तित्वात आली. ग्रंथाचा संग्रह करणे हेच एक महत्वाचे कार्य त्याकाळात ग्रंथालयाचे होते. परंतु छपाईच्या शोध लागल्यावर मानवाने केलेल्या मुद्रणकलेतील प्रगतीनंतर वाचनसाहित्याचा विकास झाला आणि कालांतराने ज्ञानाच्या स्फोट होऊ लागला आणि मग ज्ञान हे लोकापर्यंत पोहचू शकते या कल्पनेला आकार येऊ लागला. समाजाच्या सर्व थरांपर्यंत ज्ञानाचे संप्रेक्षण करण्याची जबाबदारी ग्रंथालयावर आली.

औद्योगिक ग्रंथालय

औद्योगिक संस्थेमध्ये स्थापन झालेली आणि त्या समुहाची उद्दिष्टे पूर्ण करण्यासाठी योग्य माहिती गोळा करुन योग्य वेळी पुरविण्याचे कार्य करणाऱ्या ग्रंथालयास औद्योगिक ग्रंथालय असे म्हणतात.

या ग्रंथालयाचे वाचक हे औद्योगिक क्षेत्रामध्ये काम करणारे कर्मचारी असतात त्यांना काम करतांना या ग्रंथालयाचा उपयोग होतो.

विशिष्ट कारखान्यातील किंवा उद्योग समुहातील व्यवस्थापन मंडळाला वेळोवेळी लागणारी माहिती उपलब्ध करुन देणे उत्पादन तंत्रातील नवनवीन संशोधनावर साहित्य जमा करणे व जतन करणे आणि त्या विशिष्ट उद्योगाशी संबंधित असलेली माहिती जमा करुन कर्मचारी वर्गास उपलब्ध करुन देणे हे औद्योगिक ग्रंथालयाचे काम आहे जसे जसे औद्योगिकीकरण होत आहे तसे त्यातील ग्रंथालयाचे महत्व वाढ आहे.

औद्योगिक ग्रंथालयामध्ये दिल्या जाणाऱ्या सेवा

औद्योगिक ग्रंथालयामध्ये दिल्या जाणाऱ्या सेवा ह्या कमी जास्त प्रमाणात असतात त्या पितृसंस्थेला पूरक ठरतील अश स्वरुपात बेगबेगळ्या प्रकारच्या असू शकतात त्यांचा उद्देश्य आपल्या कंपनीच्या उत्पादनात कंपनीच्या नफ्यात वाढ होण्यासाठी माहिती स्वरुपात जे ज्ञान उपलब्ध असेल ते संग्रहित करुन योग्य वेळी आयत्या वाचकांना उपलब्ध करुन देणे होय. सर्वसाधारणपणे ग्रंथालयात ग्रंथ देवघेव संदर्भ सेवा स्तर सेवा निर्देशित झेरॉक्सिंग, नियतकालिके इंटरनेअ इत्यादी ग्रंथालयीन सेवा थोड्याफार कारणाने पुरविल्या जातात.

मुख्यत: दोन कारणासाठी उद्योगाला माहितीची आवश्यकता असते अंदाज व नियंत्रण अंदाज हे भविष्यातील व नियंत्रण हे भूतकाळातील गोष्टींचा वर्तमानावरील परिणामाशी संबंधित असते भविष्यातील गोष्टींचा अंदाज बांधणे हे उद्योगाला बदलत्या वातावरणाशी जुळवून घेण्यात महत्वाचे ठरते उद्योगाला वाढीसाठी व यशस्वी होण्यासाठी अशा बदलांशी जुळवून घेणे महत्वाचे असते उद्योगाचे आराखडे बांधतांना भविष्याचा वेढा घेणे महत्वाचे ठरते या उलट नियंत्रणासाठी अगदी बेगळ्या गुणाची आवश्यकता असते म्हणजे वेळ समयसूचकता अचूकता आणि संवेदनशील कृती नियंत्रणांची आवश्यकता प्रतीत करते.