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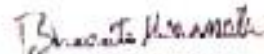



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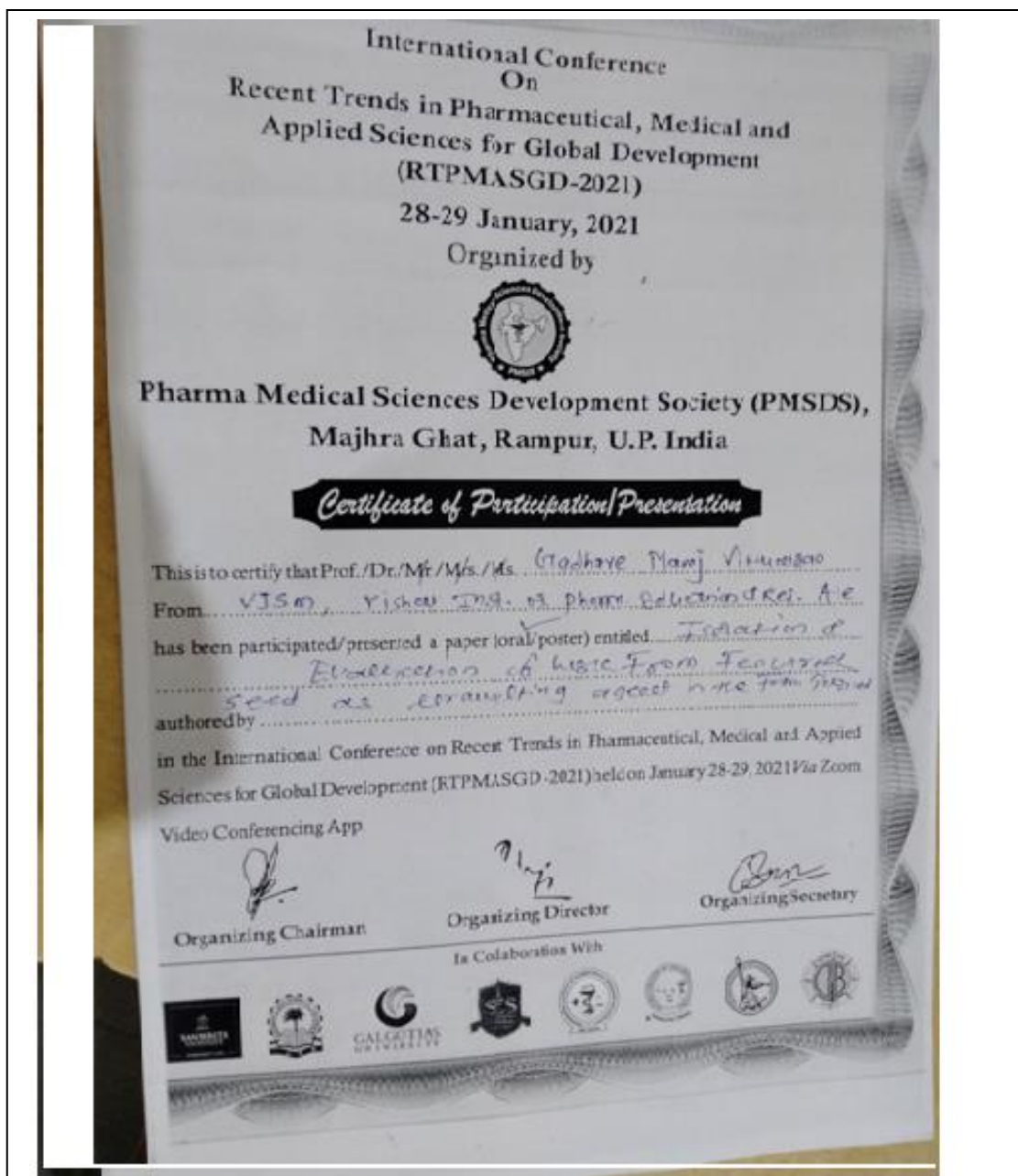


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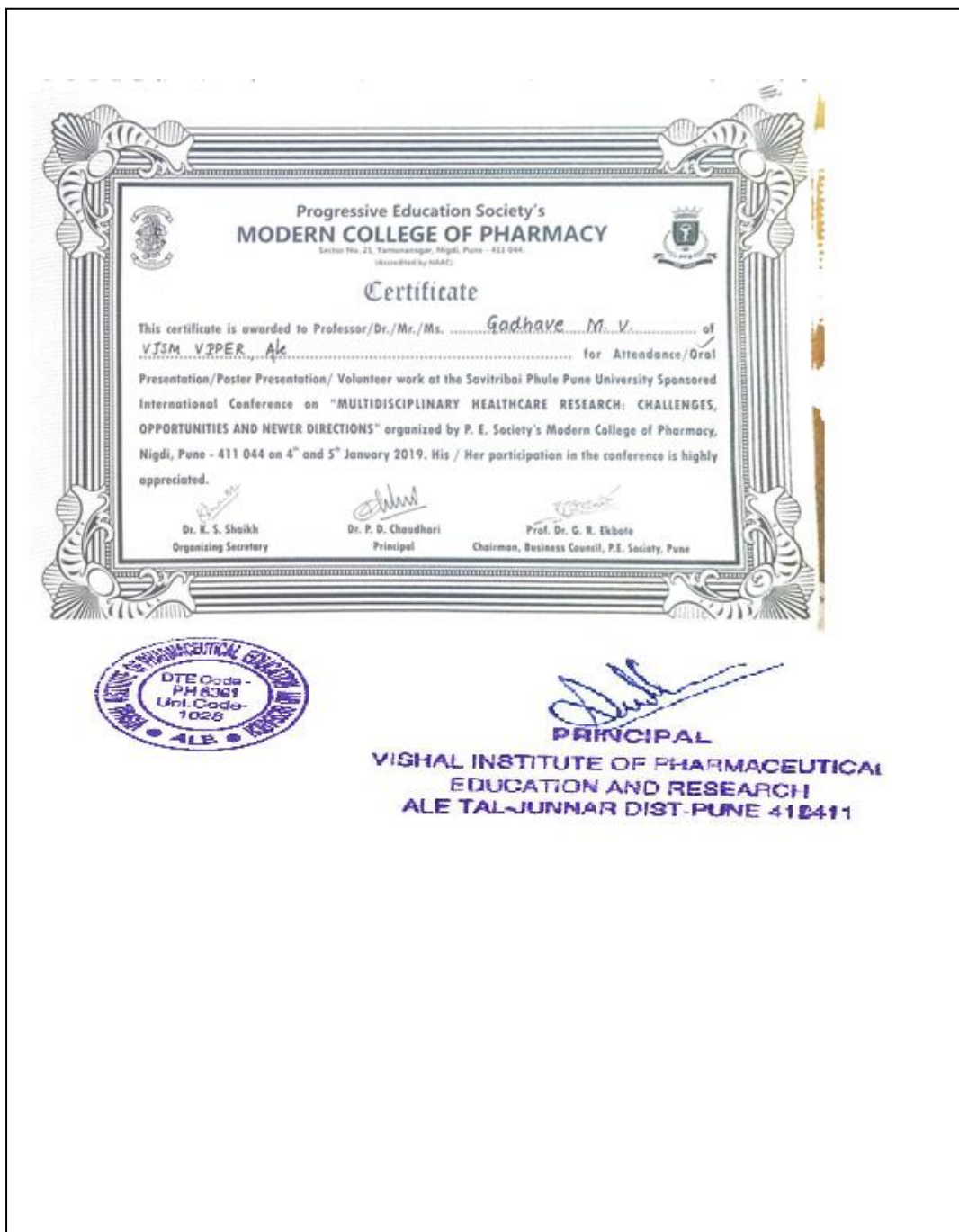


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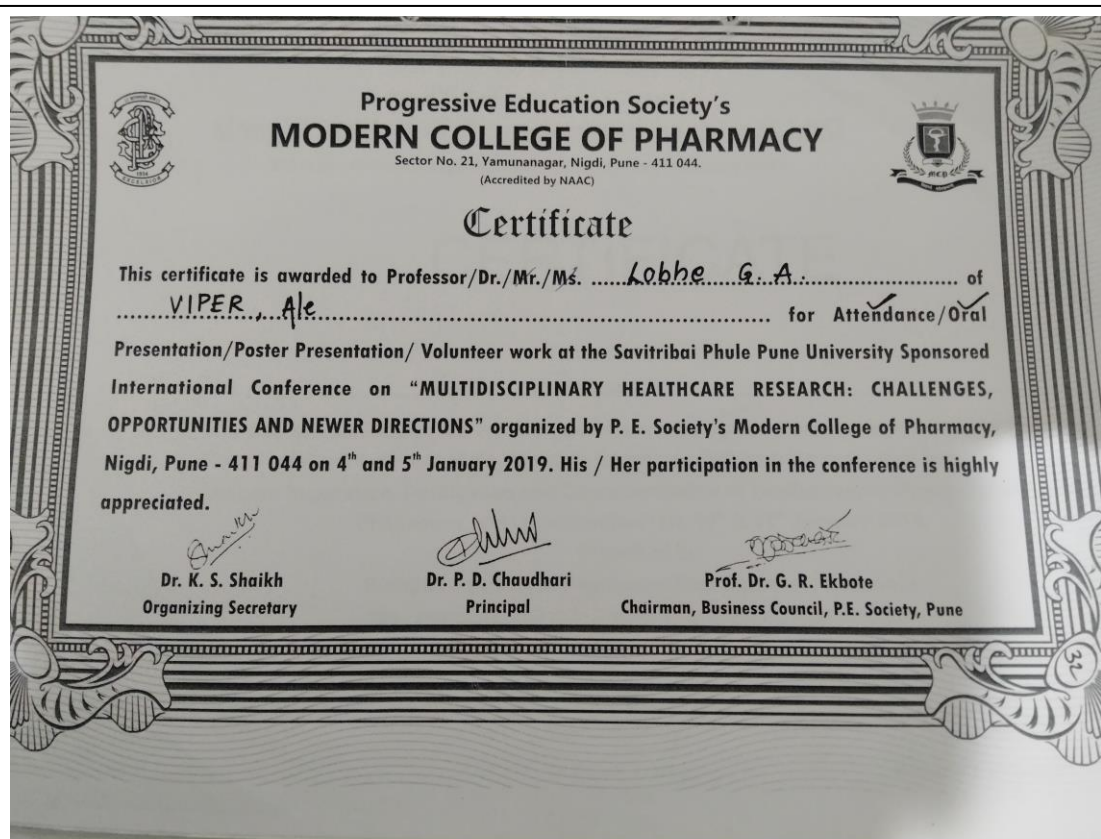


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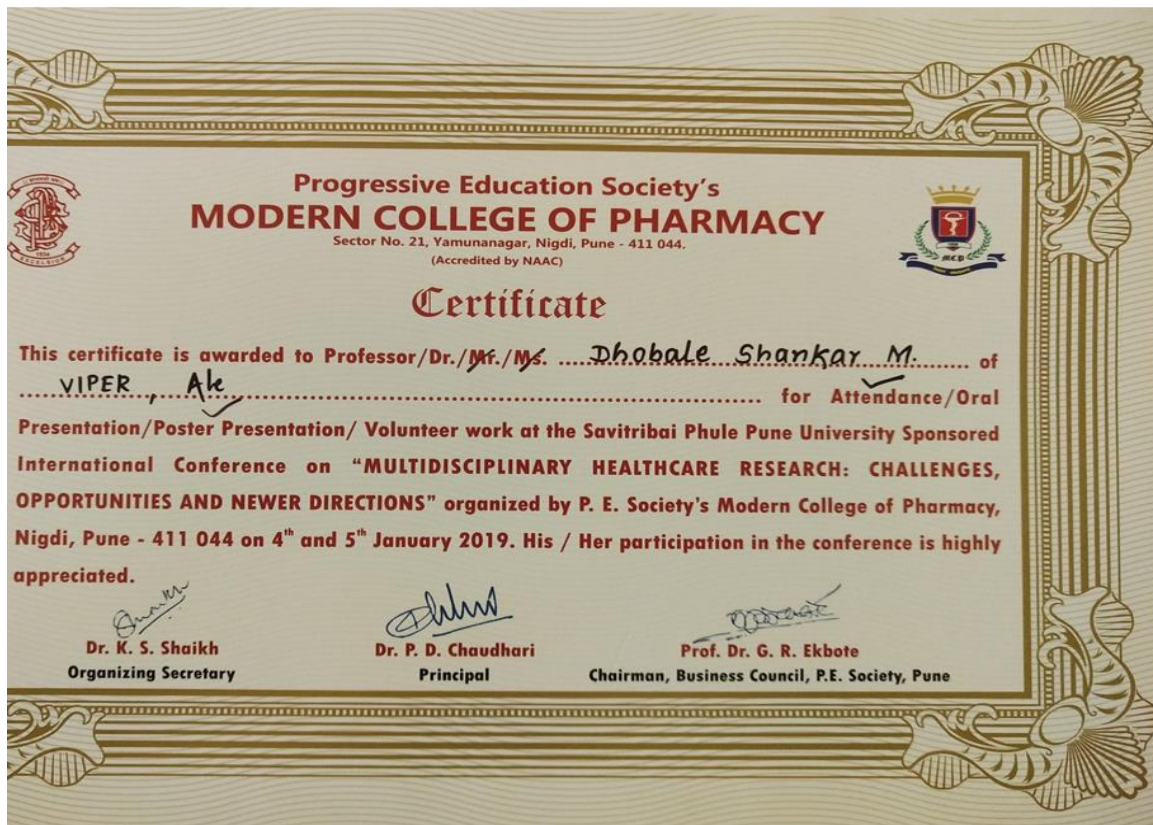


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RESEARCH ARTICLE

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Formulation and Evaluation of Luliconazole Emulgel for Topical Drug Delivery

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ABSTRACT

The aim of the present study was to develop an emulgel formulation of Luliconazole using carbopol 934 as a gelling agent. The Luliconazole has anti-Fungal activity. It acts by inhibiting lanosterol demethylase, which is major component of fungus cell wall. Emulgel has emerged as a promising drug delivery system for the delivery of hydrophobic drugs. The prepared emulgel were also evaluated for their physical properties, pH, drug content and rheological properties. *Candida albicans* was used as a model fungus to evaluate the antifungal activity of the prepared formulations. Stability studies revealed no significant differences in formulation.

It was concluded that Luliconazole emulgel formulation (F3) prepared by using Carbapol 934 as gelling agent, emulsifying agent in its high level and liquid paraffin in its low level was the choice of formula, since it showed the highest drug release and antifungal activity.

Keywords: Emulgel, Luliconazole, Topical drug delivery.

INTRODUCTION

Topical formulations apply a wide spectrum of preparations both cosmetic and dermatological, to healthy or diseased skin [1]. These formulations range in consistency from solid through semisolid to liquids. When gels and emulsions are used in a combined form, the dosage forms are referred to emulgel. [2, 3] As the name suggests they are the combination of emulsion



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RESEARCH ARTICLE

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Microwave assisted synthesis and biological evaluation of tetrahydropyrimidine derivatives

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ABSTRACT

Twelve [6-(2-methoxy-phenyl)-2-oxo-4-phenyl / substituted phenyl-1, 2,3, 4- tetrahydropyrimidine-5-yl] acetic acid derivatives have been synthesized in a two-step reaction. In the first step benzene or substituted benzene react with succinic anhydride in presence of aluminum trichloride (Friedel Craft reaction) to obtain 4-(substituted phenyl)-4-oxo- butanoic acid. Second step involves synthesis of [6-(2-methoxy-phenyl)-2-oxo-4-phenyl/substituted phenyl-1,2,3,4-tetrahydro pyrimidine -5-yl] acetic acid by reaction between 4-(substituted phenyl)-4-oxo- butanoic acid, urea and substituted aldehydes (Biginelli reaction). Their structures are confirmed by IR, ¹H NMR. T.L.C. of synthesized compounds performed in chloroform: ethanol (3:1) solvent system. The anti-inflammatory activity of all compounds has been recorded on the basis of reference standard Indomethacin. All the compounds showed tendency to cause a fall in oedema and showed anti-inflammatory activity. The anti-inflammatory data shows that use of anisole in first step plays important role in the activity. Anti-inflammatory activity of all compounds was taken by Carrageenan induced rat paw oedema as described by Winter et al. on albino rats.

Keywords: Pyrimidine, Anti-inflammatory activity, aryl
aldehydes, acetic acid, NEATY.

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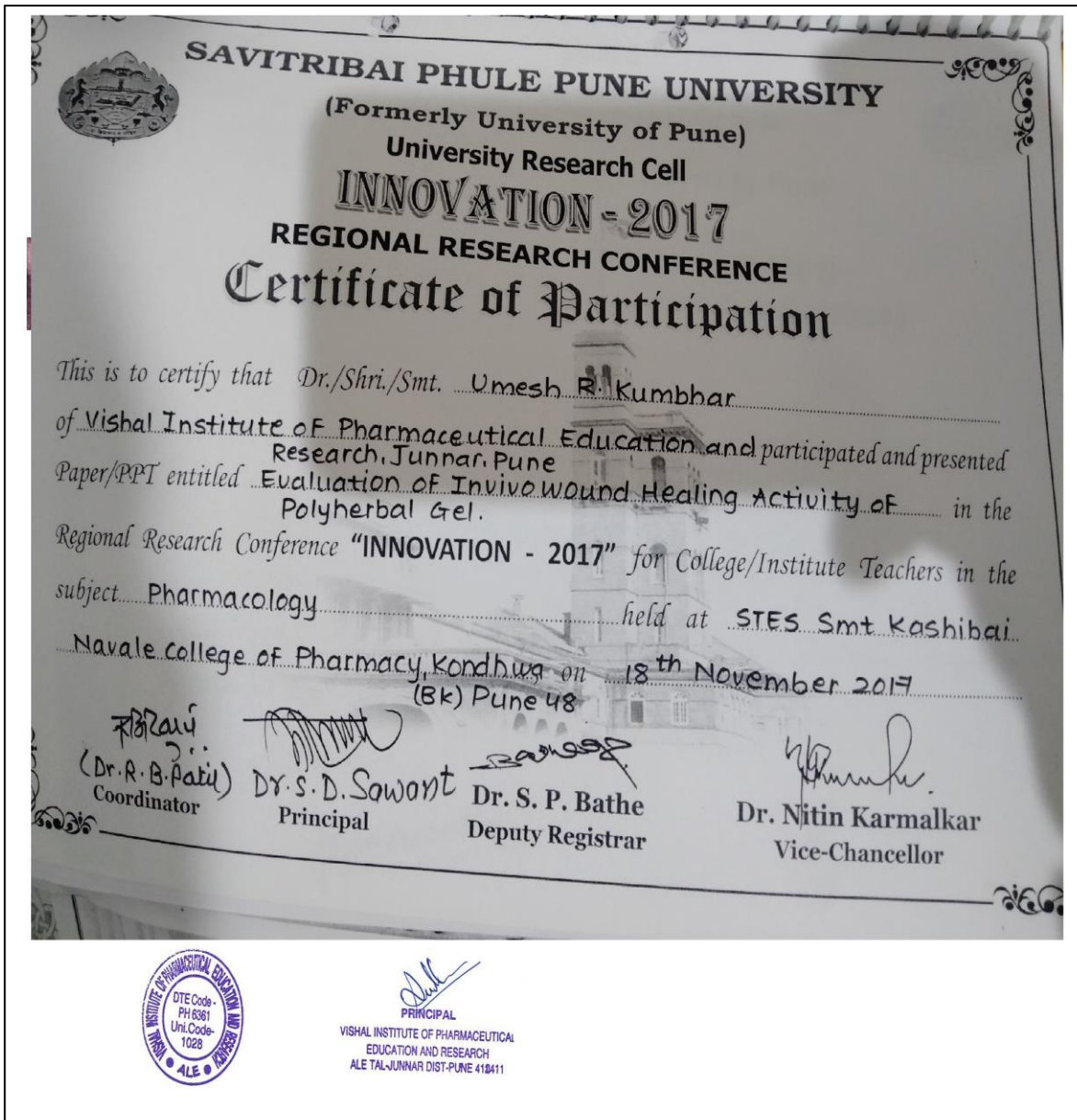


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RESEARCH ARTICLE

OPEN ACCESS

Synthesis and evaluation of some 1,2,3,4-tetra-hydro pyrimidine derivatives as antitumor agents.

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ABSTRACT

Sixteen [3, 6 (4- substituted aryl)1-(1,2 hydrazino-2-oxo-ethyl)-2-oxo-1, 2, 3, 4-tetrahydropyrimidine-5-yl] propionic acid derivatives have been synthesized in a four-step reaction. In the first step benzene or substituted benzene react with glutaric anhydride in presence of aluminum trichloride (Friedel Craft reaction) to obtain 5-(substituted phenyl)-5-oxo pentanoic acid. Second step involves synthesis of [4, 6 (4-substituted aryl)-2-oxo-1, 2, 3, 4- tetrahydro-pyrimine-5 yl propionic acid by reaction between 5-(substituted phenyl)-5-oxo pentanoic acid, urea and substituted aldehydes (Biginelli reaction). Third step involves reaction of [4, 6 (4-substituted aryl)-2-oxo-1, 2, 3, 4- tetrahydro-pyrimine-5 yl propionic acid was dissolved in a solution prepared by reacting Na (0.1mol) with 200ml of absolute ethanol and then solution is refluxed with ethyl chloroacetate to produce. 3-[4-chloro-6-(4-chlorophenyl)-1-(2-ethoxy-2-oxoethyl)-2-oxo-1,2-dihydropyrimidin-5-yl] propanoic acid. In forth step Compound (3) was treated with hydrazine hydrate to form [3, 6 (4- substituted aryl)1-(1,2hydrazino-2-oxoethyl)- 2-oxo- 1,2,3, 4tetrahydro pyrimidine -5-yl] propionic acid derivatives. Their structures are confirmed by IR, ¹H NMR. TLC of synthesized compounds performed in chloroform: ethanol (3:1) solvent system. All compounds were screened for their antitumor activity by trypan blue assay at (1 µg /mL, 10 µg/mL, 100 µg /mL, 1000 µg /mL). And their results were compared with standard drug Cyclophosphamide.

Key words: Pyrimidine, Antitumor activity, aryl alkanolic acid.

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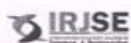


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ABSTRACT

Sixteen [3, 6 (4- substituted aryl)1-(1,2 hydrazino-2-oxo-ethyl)-2-oxo-1, 2, 3, 4-tetrahydropyrimidine-5-yl] propionic acid derivatives have been synthesized in a four-step reaction. In the first step benzene or substituted benzene react with glutaric anhydride in presence of aluminum trichloride (Friedel Craft reaction) to obtain 5-(substituted phenyl)-5-oxo pentanoic acid. Second step involves synthesis of [4, 6 (4-substituted aryl)-2-oxo-1, 2, 3, 4- tetra-hydro-pyrimine-5 yl propionic acid by reaction between 5-(substituted phenyl)-5-oxo pentanoic acid, urea and substituted aldehydes (Biginelli reaction). Third step involves reaction of [4, 6 (4-substituted aryl)-2-oxo-1, 2, 3, 4- tetra-hydropyrimine-5 yl propionic acid was dissolved in a solution prepared by reacting Na (0.1mol) with 200ml of absolute ethanol and then solution is refluxed with ethyl chloroacetate to produce. 3-[4-chloro-6-(4-chlorophenyl)-1-(2-ethoxy-2-oxoethyl)-2-oxo-1,2-dihydropyrimidin-5-yl] propanoic acid. In forth step Compound (3) was treated with hydrazine hydrate to form [3, 6 (4- substituted aryl)1-(1,2hydrazino-2-oxoethyl)- 2-oxo- 1,2,3, 4tetrahydro pyrimidine -5-yl] propionic acid derivatives. Their structures are confirmed by IR, ¹H NMR. TLC of synthesized compounds performed in chloroform: ethanol (3:1) solvent system. All compounds were screened for their antitumor activity by trypan blue assay at. (1 µg /mL, 10 µg/mL, 100 µg /mL, 1000 µg /mL). And their results were compared with standard drug Cyclophosphamide.

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RESEARCH ARTICLE

OPEN ACCESS

Formulation and Evaluation of Diclofenac Sodium Gel by Using Carbopol

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ABSTRACT

High Molecular weight water soluble homo polymer of Carbopol are reported to possess very high viscosity in low concentration, transparency, film forming properties and are useful in formation of gel. The objective of this research is to prepare and evaluate 2% polymer containing transdermal gel of Diclofenac sodium. The gel was prepared and evaluated for pH, Spreadability, Consistency, Homogeneity, Drug Content, Skin Irritation test and In vitro Diffusion Study. The percentage drug release was 97.66%. It can be concluded that preparation of diclofenac sodium by using 2% carbopol 934P Grade were prepared and evaluated.

Keywords – Water soluble polymer, Diclofenac Sodium, Carbopol 934 P, Topical drug delivery.

INTRODUCTION

Topical gel Preparation is intended for skin application and to certain mucosal surfaces for local action of percutaneous penetration of medicament or for their emollient and protective action [1]. Gel are typically formed from a liquid phase that has been thickened with other components. The continuous liquid phase allows free diffusion of molecules through the polymers and hence release should be equivalent to that from the simple solution [2]. NSAID's are non-steroidal drugs having excellent anti-inflammatory and analgesic activity but NSAID produces GIT ulceration, liver and kidney

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RESEARCH ARTICLE

OPEN ACCESS

Estimation of Frusemide in bulk and tablet formulation by UV spectrophotometric Area under Curve method

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ABSTRACT

The present work was to develop simple UV spectrophotometric method for simultaneous estimation of frusemide in bulk and tablet dosage form and validate as per ICH guidelines. In which two methods, method A is absorption maxima method in that λ_{max} was found to be 277 nm. Method B is Area under curve (AUC). Frusemide is the most commonly used high potency loop diuretics use in clinical practices. A least time consuming efficient and simple UV spectrophotometric method for the assay of frusemide has been developed. Comparison of assay of brands of frusemide (Lasix 20mg) has also been made available in medical store. The assay is based on the ultraviolet UV absorbance maxima at about 277nm wavelength of frusemide using ethanol as solvent. A sample of drug was dissolved in methanol to produce a solution containing frusemide. Similarly, a sample of ground tablet was dissolved in ethanol and various dilutions were made. The absorbance of sample preparation was measured at 277nm against the solvent blank and the assay was determined by comparing with the absorbance of available brand. The developed methods were validated for linearity, precision, accuracy, LOD and LOQ as per ICH guidelines. Both the methods were found to be linear within the concentration range of 5-25µg/ml for frusemide. The present methods were found to be simple, linear, precise, accurate and sensitive and can be used for routine quality control analysis for the estimation of frusemide in bulk and tablet dosage form.

Keywords- Frusemide, Area under Curve, ICH guidelines.




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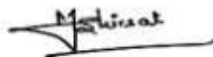
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