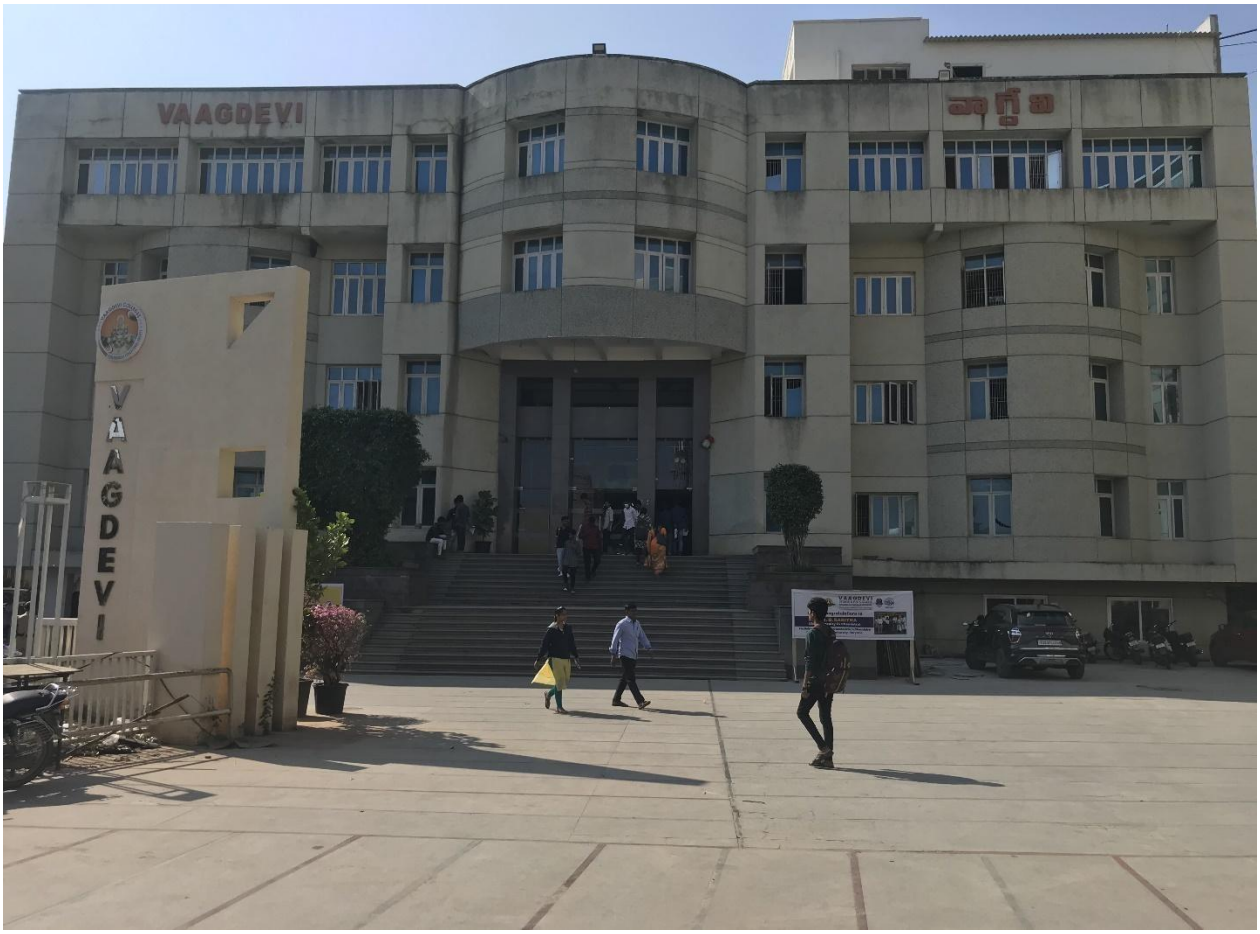
VAAGDEVIDEGREE&PGCOLLEGE

DIST:HANUMAKONDA,TELANGANASTATE–506001

(AffiliatedtoKakatiyaUniversity,Warangal)(

*email:*contact@vaagdevicolleges.com

*website :*www.Vaagdevicolleges.com



Criterion: III-MetricNo.3.5.1

Collaboration Activities

Academic Year - 2023-24

3.5.1; Number of collaboration activities for Research, faculty exchange, Students exchange /intern ship during the year

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity
1	Intern ship	NSR Diary Products, Warangal	Sameera Begum	2024	60 Days	Students Exchange
2	Intern ship	Samraksha Super Speciality Hospital, Warangal	P.Vijaya Laxmi	2024	90 Days	Students Exchange
3	Intern ship	Varun Beverages, Sanga Reddy	B.Sreeja	2024	60 Days	Students Exchange
4	Intern ship	Samraksha Super Speciality Hospital, Warangal	B.Indhu	2024	90 Days	Students Exchange
5	Intern ship	Samraksha Super Speciality Hospital, Warangal	D.Santhoshini	2024	90 Days	Students Exchange
6	Intern ship	Apitoria Pharma Limited, Sanga Reddy	M.Jayasri	2024	24 Days	Students Exchange
7	Intern ship	Samraksha Super Speciality Hospital, Warangal	N.Afreen	2024	84 Days	Students Exchange
8	Intern ship	Samraksha Super Speciality Hospital, Warangal	P.Akanksha	2024	84 Days	Students Exchange
9	Intern ship	Samraksha Super Speciality Hospital, Warangal	Farheen	2024	84 Days	Studets Exchange
10	Intern ship	KJS India Private Limited	MD Rubeena	2024	43 Days	Students Exchange
11	Intern ship	Samraksha Super Speciality Hospital, Warangal	B.Jhanavi	2024	84 Days	Students Exchange
12	Project Work	Rapid Technologies, Warangal	K .Baidya	2024	60 Days	Students Exchange
13	Project Work	Rapid Technologies, Warangal	M.Ankith	2024	60 Days	Students Exchange
14	Project Work	Rapid Technologies, Warangal	A.Anmisha	2024	60 Days	Students Echange
15	Project Work	Rapid Technologies, Warangal	S.Akanksha	2024	60 Days	Students Exchange
16	Project Work	Rapid Technologies, Warangal	J.Ganesh	2024	60 Days	Students Exchange
17	Project Work	Rapid Technologies, Warangal	P.Keerthi Raj	2024	60 Days	Students Exchange

18	**Project Work**	**Rapid Technologies, Warangal**	**E.Maasa Chandra**	**2024**	**60 Days**	**Students Exchange**
19	**Project Work**	**Rapid Technologies, Warangal**	**E.Sai Tejasri**	**2024**	**60 Days**	**Students Exchange**
20	**Project Work**	**Rapid Technologies, Warangal**	**G.Pradeep**	**2024**	**60 Days**	**Students Exchange**
21	**Project Work**	**Rapid Technologies, Warangal**	**M.Prashanthji**	**2024**	**60 Days**	**Students Exchange**
22	**Research**	**KITS Warangal**	**Dr Avula Srinivas**	**2024**	**90 Days**	**Faculty Exchange**
23	**Research**	**Carrier point University,Rajastan**	**Dr Avula Srinivas**	**2024**	**90 Days**	**Faculty Exchange**
24	**Research**	**CDU,Hanamkonda**	**Dr Avula Srinivas**	**2024**	**90 Days**	**Faculty Exchange**
25	**Research**	**CDU,Hanamkonda**	**G.Chandrakala**	**2024**	**90 Days**	**Faculty Exchange**
26	**Research**	**CDU,Hanamkonda**	**Ishrath Farheen**	**2024**	**90 Days**	**Faculty Exchange**
27	**Research**	**Carrier point University,Rajastan**	**Dr P.Suresh**	**2024**	**60 Days**	**Faculty Exchange**
28	**Intern ship**	**Ravi Foods Private limited, Hyderabad**	**B.Sahithi**	**2023**	**60 Days**	**Students Exchange**
29	**Intern ship**	**Ravi Foods Private limited, Hyderabad**	**V.Gayathri**	**2023**	**60 Days**	**Students Exchange**

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

NSR DAIRY PRODUCTS

Ref.

Date : .....
02nd Jun 2024

TO WHOM SO EVER IT MAY CONCERN

CERTIFICATE

This is to certify that **Sameera Begum** Bearing H.No:- 086223910 student of B.S.C (Food Science & Technology) Vaagdevi Degree & PG College, Affiliated to Kakatiya University, Kishanpura, Hanumakonda has completed her Internship/Apprenticeship Program in various sections at milk products factory NSR Dairy, Guduppad, Warangal has attended 60 days from **05.02.2024 to 05.04.2024** in production wing

During the training period her character and conduct is good.

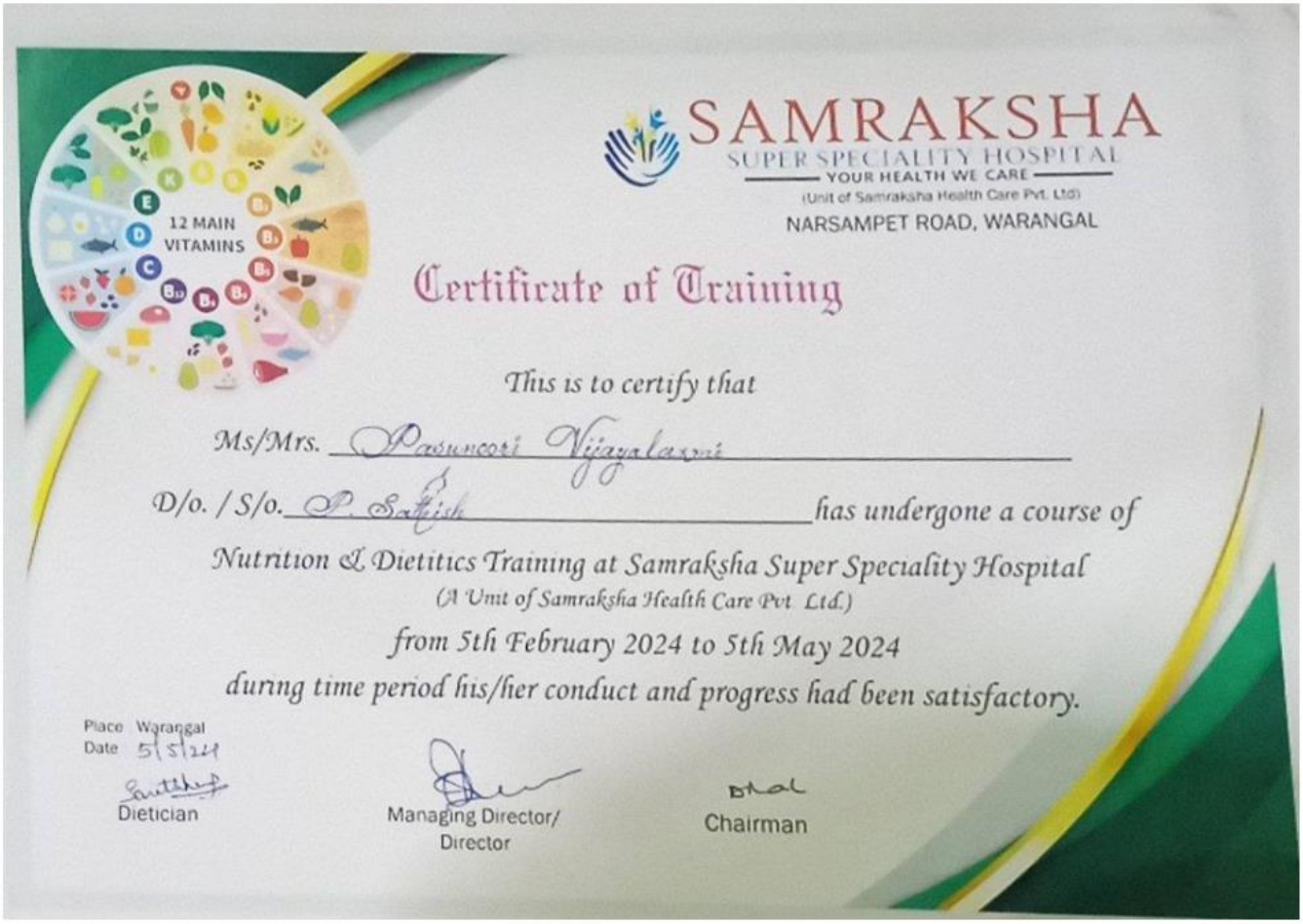
For NSR Dairy Products

NSR DAIRY PRODUCTS ★ DURGAMPELLY

General Manager

1

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda



A. Sudhakar

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

VARUN BEVERAGES LIMITED

NH-65, MUMBAI HIGHWAY, POTHIREDDYPALLY (V), SANGAREDDY(M)
SANGAREDDY (DIST) - 502 295, TELANGANA.
CIN : L74899DL1995PLC069839 Web : www.varunpepsi.com E-mail ID : info@rjcorp.in

INTERNSHIP CERTIFICATE

03rd April 2024

TO WHOM SO EVER IT MAY CONERN

This is to certify that "**Ms. Bokkala Sreeja", B Sc. Food Science and Quality Control from Vaagdevi Degree & PG College- Hanamkonda** has done her internship training under the guidelines of **Quality Control Department** in **Varun Beverages Limited**, Sangareddy from **01st February 2024 to 03rd April 2024.**

During the above tenure we found her to be regular, honest and delightful in her subject knowledge and hardworking nature.

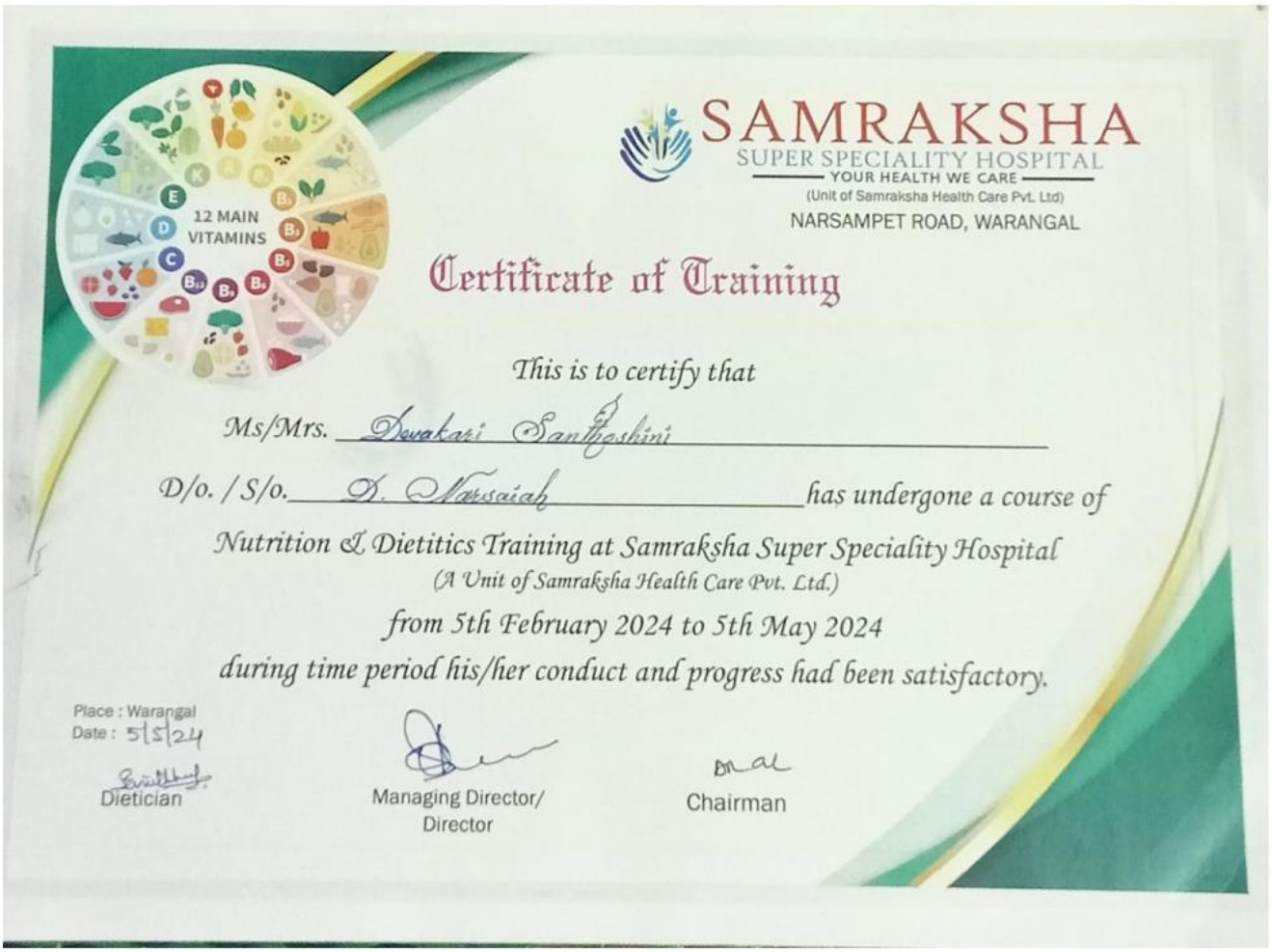
We wish her all success in her future endeavours.

For Varun Beverages Limited

VARUN BEVERAGES LIMITED Telangana Sangareddy

HR Department

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda



Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

apitoria

08.05.2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms M. Jayasri**, bearing Roll No:23117-S-1031, a 2nd year MSC, IV Semester Microbiology Department a student of Vaagdevi Degree and PG College Warangal, has successfully completed her internship at our organization for a period of 4 weeks from **08.05.2024**

During the period of her internship program with us, she has been exposed to different processes and was found to be diligent, inquisitive, and hardworking.

We wish her all the success in future endeavours.

For Apitoria Pharma Private Limited, Unit-II,

Authorized Signatory

CIN: U24298TG2017PTC121342 **Apitoria Pharma Private Limited**
Unit-II: Survey No.: 10 & 13, Gaddapotharam Village – 502 319, IDA-Kazipally, Jinnaram Mandal, Sanga Reddy District, Telangana, INDIA. PAN : AAQCA3500J
Tel: +91 8458 277 114 / 15 Fax : + 91 8458 277 115
(Formerly Unit-VIII of Aurobindo Pharma Limited)
Registered Office : Galaxy, Floors: 22-24, Plot No.1, Survey No. 83/1, Hyderabad Knowledge City, Raidurg Panmaktha, Ranga Reddy District, ...

Principal
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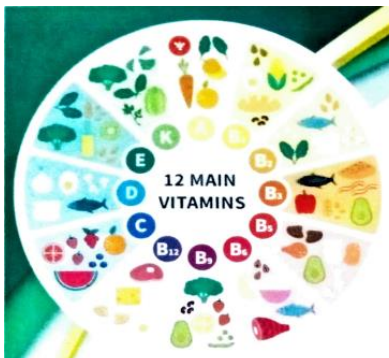
Kishanpura, Hanamkonda



SAMRAKSHA
SUPER SPECIALITY HOSPITAL
YOUR HEALTH WE CARE
(Unit of Samraksha Health Care Pvt. Ltd)
NARSAMPET ROAD, WARANGAL

Certificate of Training

This is to certify that

Ms/Mrs. Meha Afreen

D/o. / S/o. Md. Khaja Afzal Ahmed *has undergone a course of*

Nutrition & Dietitics Training at Samraksha Super Speciality Hospital
(A Unit of Samraksha Health Care Pvt. Ltd.)

from 5th February 2024 to 5th May 2024

during time period his/her conduct and progress had been satisfactory.

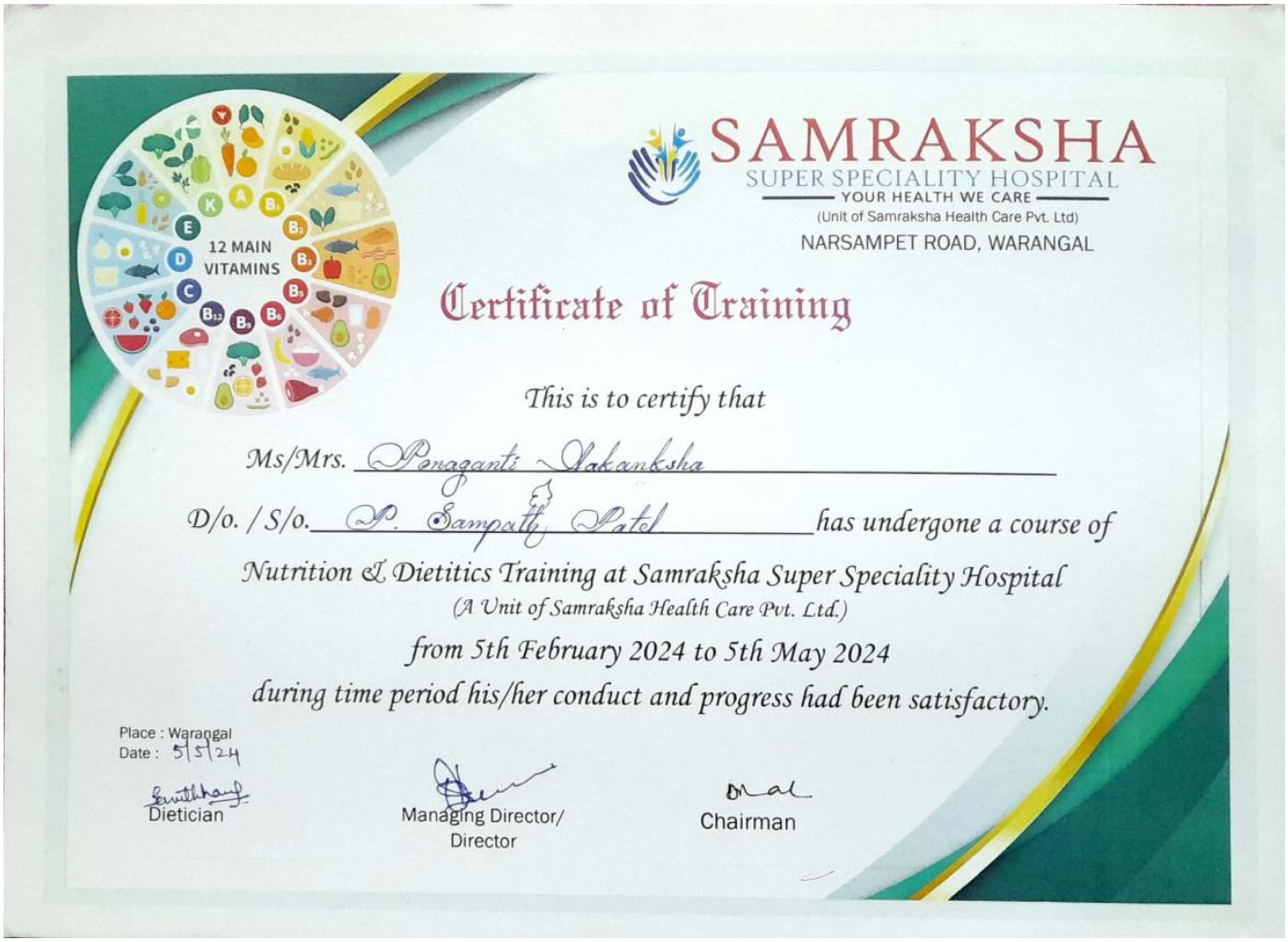
Place : Warangal
Date : 5/5/24

Dietician

Managing Director/
Director

Chairman

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda



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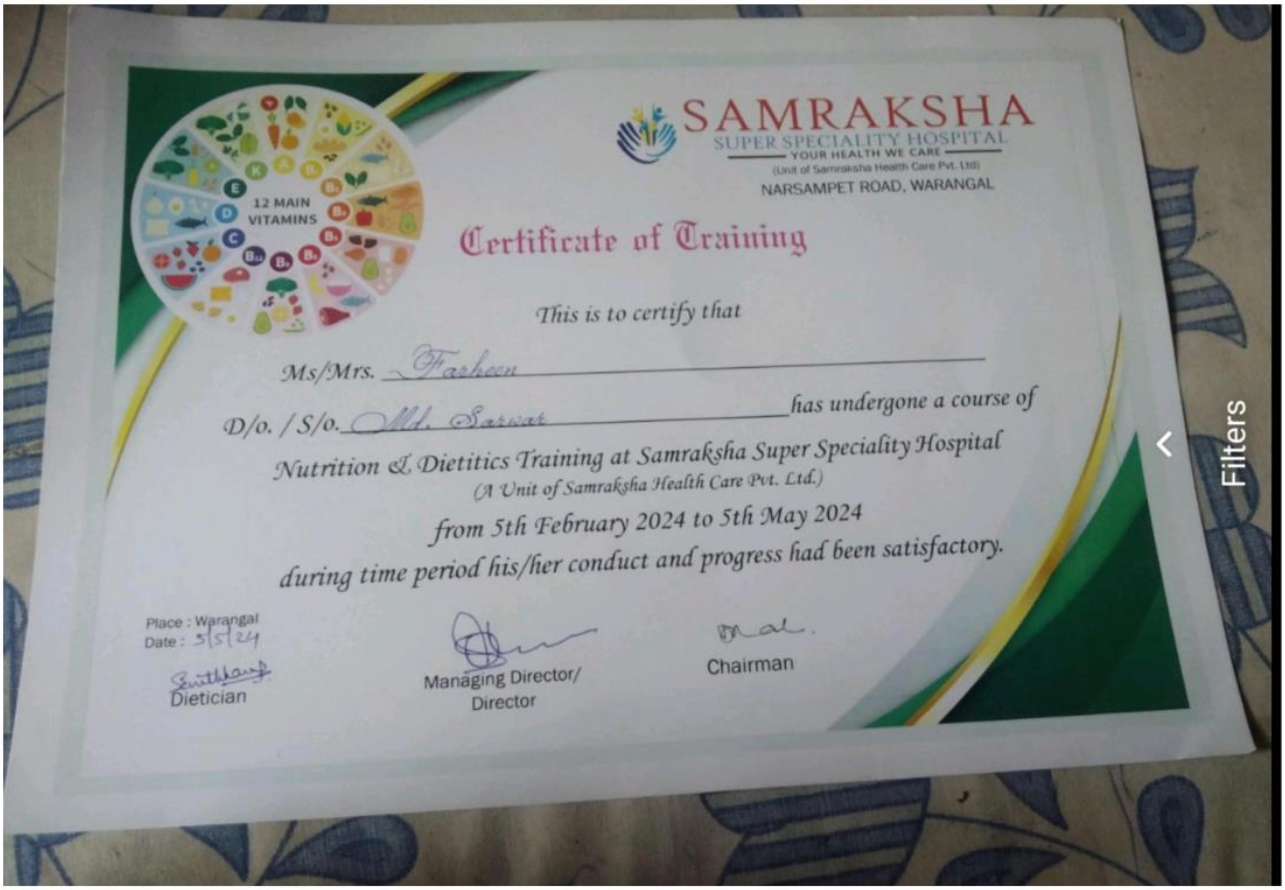
Kishanpura, Hanamkonda



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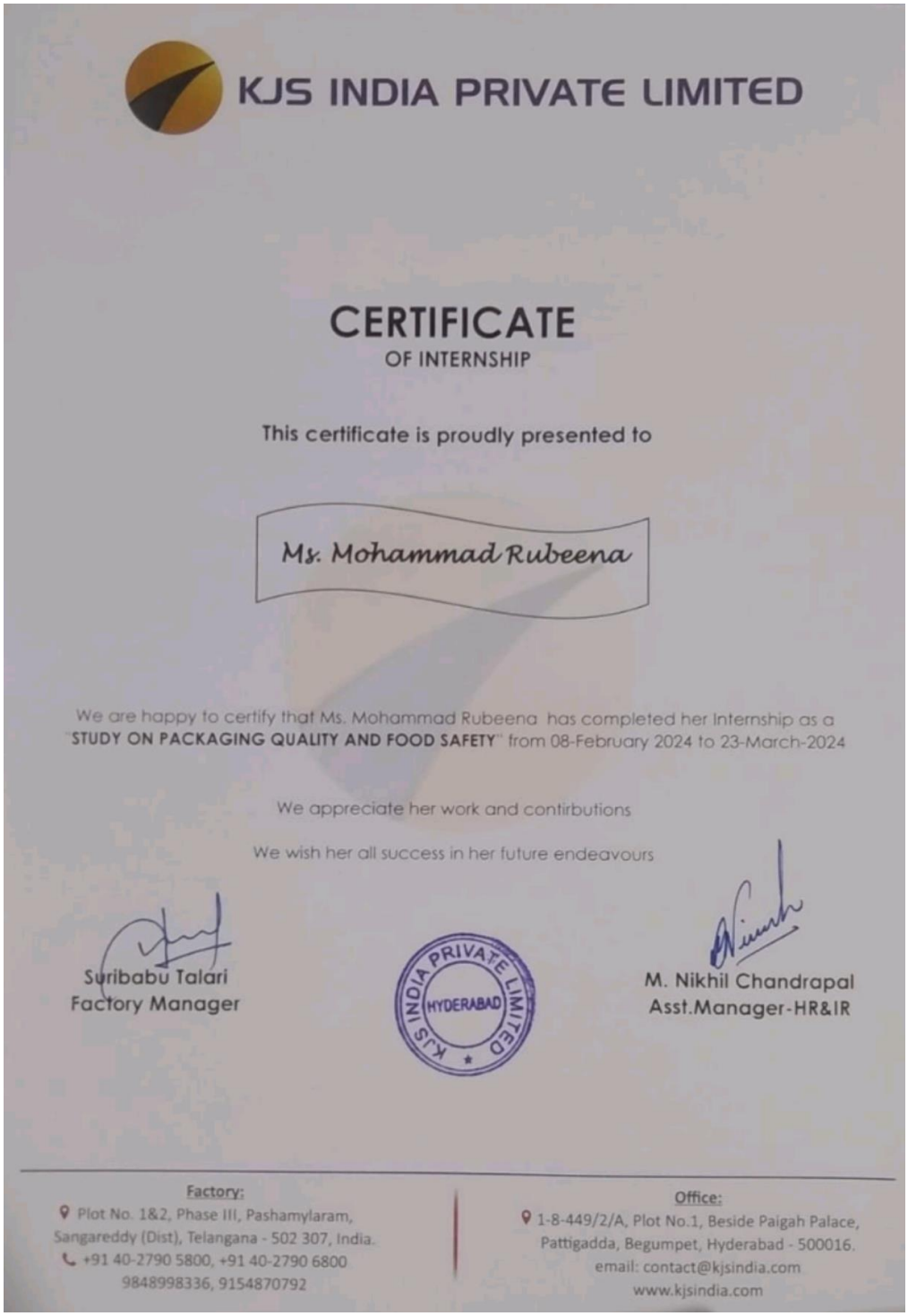
Kishanpura, Hanamkonda



KJS INDIA PRIVATE LIMITED

CERTIFICATE

OF INTERNSHIP

This certificate is proudly presented to

Ms. Mohammad Rubeena

We are happy to certify that Ms. Mohammad Rubeena has completed her Internship as a "**STUDY ON PACKAGING QUALITY AND FOOD SAFETY**" from 08-February 2024 to 23-March-2024

We appreciate her work and contirbutions

We wish her all success in her future endeavours

Suribabu Talari
Factory Manager

KJS INDIA PRIVATE LIMITED HYDERABAD

M. Nikhil Chandrapal
Asst.Manager-HR&IR

Factory:
Plot No. 1&2, Phase III, Pashamylaram,
Sangareddy (Dist), Telangana - 502 307, India.
+91 40-2790 5800, +91 40-2790 6800
9848998336, 9154870792

Office:
1-8-449/2/A, Plot No.1, Beside Paigah Palace,
Pattigadda, Begumpet, Hyderabad - 500016.
email: contact@kjsindia.com
www.kjsindia.com

A. Sudarshalam

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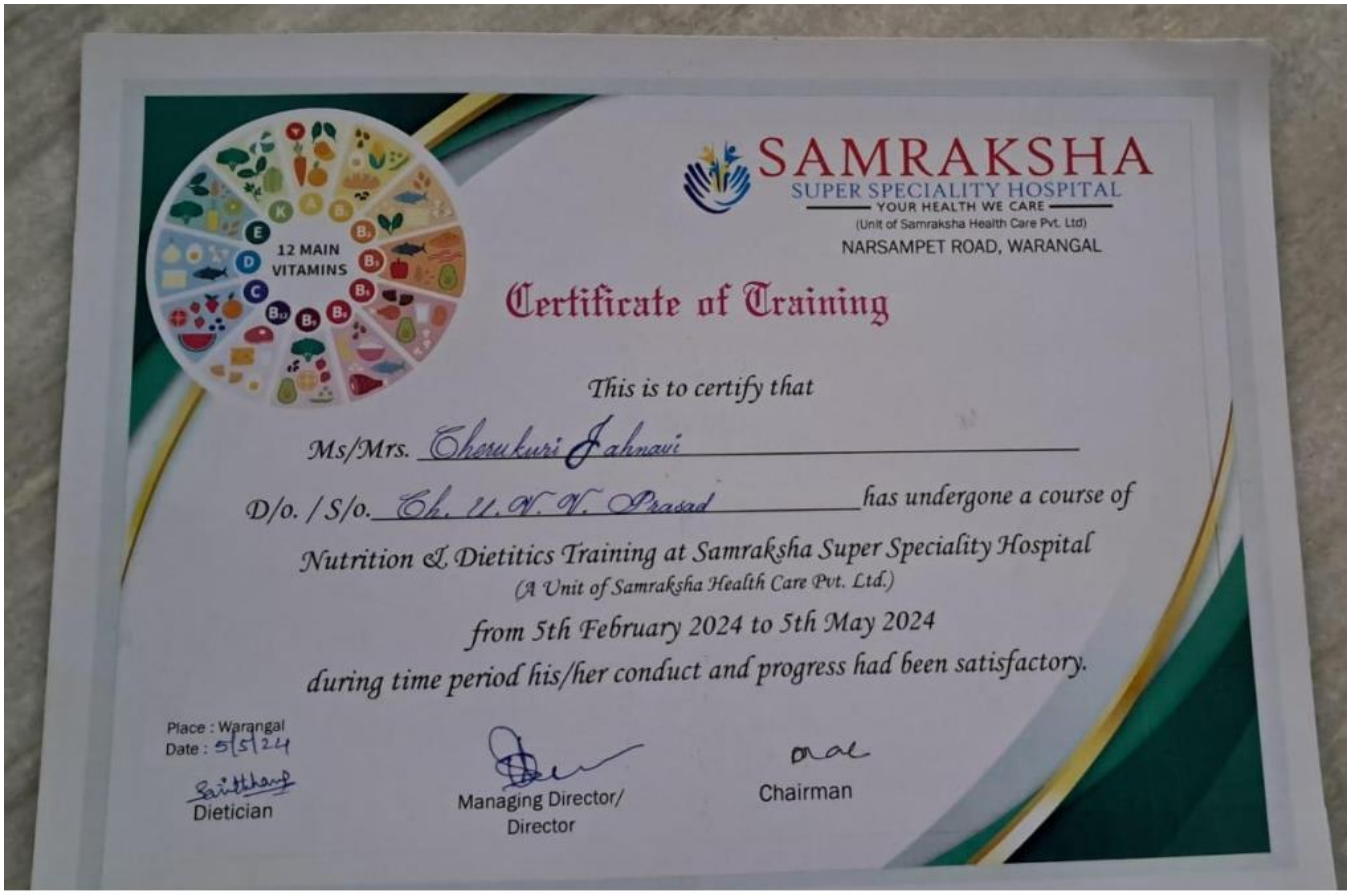
Kishanpura, Hanamkonda



Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

Rapid Technologies

Date: 30th April 2024.

CERTIFICATE

This is to certify that **Ankith Mandal (086225008) & Kallol baidya (086225045)** of **Vaagdevi Degree and P.G College** are involved as project trainees in the project titled **"Online Travel And Tour Management System"** from Rapid Technologies, in partial fulfillment for the award of **"BCA (Bachelor of Computer Applications)"** degree by Kakatiya University, Hanamkonda. They have been extended access to computer systems, server access and all the software at our development facility center. They have carried out project work during the period 21st January 2024 to 30th April 2024 under our guidance and supervision.

This project was developed and tested successfully at our development facility center.

Rapid Technologies Hyderabad, Telangana, India-500072

K. RAJU
Project-Guide

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

Rapid Technologi

Date: 30th April 2024.

CERTIFICATE

This is to certify that **Adulapuram Anmisha (086225002) & Surabhi Akanksha (086225084)** of **Vaagdevi Degree and P.G College** are involved as project trainees in the project titled **"Railway Reservation System"** from Rapid Technologies, in partial fulfillment for the award of **"BCA (Bachelor of Computer Applications)"** degree by Kakatiya University, Hanamkonda. They have been extended access to computer systems, server access and all the software at our development facility center. They have carried out project work during the period 21st January 2024 to 30th April 2024 under our guidance and supervision.

This project was developed and tested successfully at our development facility center.

Rapid Technologies Hyderabad Telangana India 500090

K. RAJU
Project-Guide

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

Rapid Technologi

Date: 30th April 2024.

CERTIFICATE

This is to certify that **Jillala Ganesh (086225042), Panaganti Keerthiraj (086225062)** of **Vaagdevi Degree and P.G College** are involved as project trainees in the project titled **"Ambulance Booking In Emergency Conditions Using Android"** from Rapid Technologies, in partial fulfillment for the award of **"BCA (Bachelor of Computer Applications)"** degree by Kakatiya University, Hanamkonda. They have been extended access to computer systems, server access and all the software at our development facility center. They have carried out project work during the period 21st January 2024 to 30th April 2024 under our guidance and supervision.

This project was developed and tested successfully at our development facility center.

Rapid Technologies * 086030 * Hyderabad, Telangana, India

K. RAJU
Project-Guide

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

Rapid Technologies

Date: 30th April 2024.

CERTIFICATE

This is to certify that **Eppalapelly Maneesha Chandra (086225029) & Eraboina Saitejasri (086225030)** of **Vaagdevi Degree and P.G College** are involved as project trainees in the project titled **"Flight Reservation System Using Android"** from Rapid Technologies, in partial fulfillment for the award of **"BCA (Bachelor of Computer Applications)"** degree by Kakatiya University, Hanamkonda. They have been extended access to computer systems, server access and all the software at our development facility center. They have carried out project work during the period 21st January 2024 to 30th April 2024 under our guidance and supervision.

This project was developed and tested successfully at our development facility center.

K. RAJU
Project Guide

Rapid Technologies ★ 500090 ★ Hyderabad, Telangana, India

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Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

Rapid Technologies

Date: 30th April 2024.

CERTIFICATE

This is to certify that **Pradeep Gharami (086225066) & Prashanjit Mandal (086225067)** of **Vaagdevi Degree and P.G College** are involved as project trainees in the project titled **"E2HRC: An Energy-Efficient Heterogeneous Ring Clustering Routing Protocol for Wireless Sensor Networks"** from Rapid Technologies, in partial fulfillment for the award of **"BCA (Bachelor of Computer Applications)"** degree by Kakatiya University, Hanamkonda. They have been extended access to computer systems, server access and all the software at our development facility center. They have carried out project work during the period 21st January 2024 to 30th April 2024 under our guidance and supervision.

This project was developed and tested successfully at our development facility center.

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Rapid Technologies Hyderabad, Telangana, India-500090

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Kishanpura, Hanamkonda

ISSN 1070-4280, Russian Journal of Organic Chemistry, 2024, Vol. 60, No. 1, pp. 84–92. © Pleiades Publishing, Ltd., 2024.

Microwave-Assisted Synthesis and Evaluation of Bis[(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl] 7,8′-Methylenebis[2-(*E*)-(benzylideneamino)-4*H*-chromene-3-carboxylates] as Potent Antimicrobial Agents

A. Srinivas[a,*], S. Rajitha[b], E. Kalyan Rao[c], K. Sindhura[d], S. I. Farheen[d], G. Chandrakala[d], and S. Sultana[e]

[a] *Department of Chemistry, Vaagdevi Degree & PG College, Kishanpura, Hanamkonda, Telangana, 506001 India*

[b] *School of Sciences, Career Point University, Kota, Rajasthan, 325003 India*

[c] *Department of Physical Sciences, Kakatiya Institute of Technological Sciences, Hanamkonda, Telangana, 506009 India*

[d] *Department of Microbiology, Vaagdevi Degree & PG College, Kishanpura, Warangal, Telangana, 506001 India*

[e] *Department of Humanities, Vaagdevi Degree & PG College, Kishanpura, Warangal, Telangana, 506001 India*

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Received February 9, 2023; revised February 21, 2023; accepted February 23, 2023

Abstract—A series of novel bis[(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl] 7,8′-methylenebis[2-(*E*)-(benzylideneamino)-4*H*-chromene-3-carboxylates] **6a–6f** were synthesized from di(prop-2-yn-1-yl) 7,8′-methylenebis-[(*E*)-2-(benzylideneamino)-4*H*-chromene-3-carboxylates] **5a–5f** via a one-pot procedure involving 1,3-dipolar cycloaddition catalyzed by $CuSO_4$ and glucose under microwave irradiation at 100°C as a key step. Compounds **6d** and **6f** bearing 4-NO_2 and 4-OH groups exhibited good activity against some fungal strains, and compounds **6b** and **6f** bearing 4-Cl and 4-OH groups exhibited good antimicrobial activity against *S. pyogenes*, *E. coli*, *B. subtilis*, and *S. aureus*.

Keywords: methylenebisheterocycles, Knoevenagel condensation, click reaction, glucose, microwave-assisted synthesis, antimicrobial activity

DOI: 10.1134/S1070428024010123

INTRODUCTION

4*H*-Chromenes are important heterocyclic compounds that play a significant role in biology and medicinal chemistry due to their diverse therapeutic activities such as antiangiogenic [1], antibacterial [2], anticancer [3], anticoagulant [4], anti-inflammatory [5], antitumor [6], antifungal [7], anti-HIV [8], antigenotoxic [9], antioxidant [10], antiviral [11], anti-Alzheimer [12], and other activities [13–19]. 1,2,3-Triazole derivatives also exhibit multiple biological activities such as antibacterial, antifungal, anti-hypoglycemic, antihypertensive, and analgesic [20–33].

Microwave irradiation is a replacement heating system which often increases the rate of chemical reactions [34–37]. Multicomponent reactions (MCRs) have found wide application due to their simplicity, high atomic economy, shortened reaction times, and the possibility of multidisciplinary integration [38–40].

In view of the above stated and in continuation of our work on heterocyclic compounds [41–46], herein we report the microwave-assisted synthesis of novel bis-chromene derivatives containing triazole fragments and their antimicrobial activity.

RESULTS AND DISCUSSION

The key intermediates **5a–5f** were synthesized as outlined in Scheme 1. The Knoevenagel condensation of 3,4′-methylenebis(2-hydroxybenzaldehyde) (**1**) and

ISSN 1070-4280, Russian Journal of Organic Chemistry, 2024, Vol. 60, No. 1, pp. 84–92. © Pleiades Publishing, Ltd., 2024.

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[b] *School of Sciences, Career Point University, Kota, Rajasthan, 325003 India*

[c] *Department of Physical Sciences, Kakatiya Institute of Technological Sciences, Hanamkonda, Telangana, 506009 India*

[d] *Department of Microbiology, Vaagdevi Degree & PG College, Kishanpura, Warangal, Telangana, 506001 India*

[e] *Department of Humanities, Vaagdevi Degree & PG College, Kishanpura, Warangal, Telangana, 506001 India*

**e-mail: avula.sathwikreddy@gmail.com*

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The key intermediates **5a–5f** were synthesized as outlined in Scheme 1. The Knoevenagel condensation of 3,4′-methylenebis(2-hydroxybenzaldehyde) (**1**) and

*Research Journal of Chemistry and Environment*_____Vol. **28 (3)** March **(2024)**
Res. J. Chem. Environ.

The development, preparation and characterisation of novel pyran derivatives and their biological assessment

Sriramoju Shamili[1], Avula Srinivas[2], Konda Sindhura[2] and Siddoju Kavitha[1*]
1. Department of Chemistry, Chaitanya Deemed to be University, Hanumakonda, Telangana -506001, INDIA
2. Department of Chemistry and Microbiology, Vaagdevi Degree and PG College, Hanumakonda, Telangana-506001, INDIA
*kavithavbr@gmail.com

Abstract

We have synthesized some novel derivatives of 4-(1-(2, 4-dinitrophenyl)-3-phenyl-1H-pyrazol-4-yl)-7,7-dimet hyl-2-(methylamino)-3nitro-6,7,8,8a-tetrahydro-4H-chromen-5(4aH)-one by the multicomponent reaction of pyrazole aldehydes derivatives, N-methyl-1-(methylthio)-2-nitroethenamine (NMSM) and 5,5-dimethylcyclohexane-1,3-dione. The synthesised compounds are confirmed by ^{1}H NMR, IR and Mass Spectroscopy and they were then tested for antioxidant activities.

In terms of antioxidant activity, compounds C-7 and C-1 were found to have the greatest and lowest levels respectively. Against Enterobacter aerogenes, compound C-5 exhibited the lowest minimum inhibitory concentration value.

Keywords: Pyrans, Multicomponent reaction, Antioxidant activities.

Introduction

Many organic and medicinal chemists rely on heterocyclic compounds for their synthesis because of the wide range of therapeutic uses of these compounds.[3] The pyran derivatives are significant compounds with a variety of biological activities including anti-leishmanial, antioxidant, anti-HIV, anti-tumour, Alzheimer's disease and schizophrenia[4,5,7-10].

For example, pyran derivatives were employed to make agrochemicals[11], laser dyes[12] nonlinear optics[13] and photo chromic materials[14]. Synthetic and medicinal chemists are very much interested in finding new ways to synthesise pyran derivatives. These include heterogeneous catalysts, Ionic liquids[15,16] etc.[18]

Complex synthetic procedures with extraction and purification at every stage result in synthetic ineptitude and the generation of enormous quantities of waste due to lengthy reaction times and costly catalysts required for the synthesis of pyran derivatives. To tackle this issue, a multicomponent process was employed to synthesise pyran derivatives[18].

The peculiar structure and therapeutic uses of pyranopyran-based heterocyclic compounds such as anticancer, antiproliferative, anti-inflammatory and antiviral, make them very important. The use of pyranopyran derivatives as medicines has been documented in several studies[20].

Material and Methods

All chemicals were bought and utilised without being purified in any way. Thin-layer chromatography (TLC) using silica gel-G plates (G60 F254 (Merck) of 0.5 mm thickness was used to monitor reactions and ultraviolet light was used to see them (254 and 365 nm). An open capillary apparatus called a Buchi B-540 was used to measure melting points, which were then uncorrected. The IR spectra were collected using an FTIR-8400 S, CE Shimadzu instrument and are represented in cm^{-1} (KBr). NMR spectra were collected in deuterated solvents $CDCl_3$ using a Bruker Avance 400 MHz spectrometer (400 MHz for ^{1}H NMR).

Elemental analysis was performed on a Euro EA 3000 elemental analyzer and the findings are consistent with the structures given. Analytical data was obtained using the Shimadzu QP-2010 mass spectrum analyzer using the ESI (70-eV) model with direct intake probe and the m/z was expressed in elementary charge units. A Buchi rotary evaporator was used to evaporate solvents.

The first step of synthesis was to form acetophenone phenyl hydrazones derivatives (Int-1) by reacting substituted acetophenone, (2,4-dinitrophenyl) hydrazine. At room temperature, 0.032 mol of anhydrous DMF was used to cyclize (Int-1). After agitating the reaction mass for 10–15 minutes at the same temperature as during the addition, 0.032 mol of $AgNO_3$ was added drop-wise while stirring and 0.015 mol of acetophenone hydrazones was added. The reaction mixture was stirred at 70^0C and left there for 5 hours to produce pyrazole aldehydes derivatives (Int-2). Then synthesis of the target molecule was achieved by multicomponent reaction of (Int-2), N-methyl-1-(methylthio)-2-nitroethenamine (NMSM) and 5,5-dimethylcyclohexane-1,3-dione. The yields of all the synthesised compounds ranged from excellent to acceptable. IR, NMR and Mass spectrometry were used to analyse all of the produced compounds.

A number of different solvents and bases were put so that the appropriate base and solvent could be chosen for the reaction (Table 1). The reaction proceeded without the need of a catalyst, which is advantageous from both a financial and an environmental point of view (Table 1, entry 1). After that, a number of organic and inorganic bases were put through the process and tested. When piperidine was used as the base and ethanol was used as the solvent, it was discovered that the yield of the product increased significantly (Table 1, entry 11). In comparison to other organic solvents, ethanol is both reasonably inexpensive. As indicated by Berset et al[6], the pyran

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Microwave-Assisted Synthesis and Evaluation of Bis[(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl] 7,8′-Methylenebis[2-(*E*)-(benzylideneamino)-4*H*-chromene-3-carboxylates] as Potent Antimicrobial Agents

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Abstract—A series of novel bis[(1-benzyl-1*H*-1,2,3-triazol-4-yl)methyl] 7,8′-methylenebis[2-(*E*)-(benzylideneamino)-4*H*-chromene-3-carboxylates] **6a–6f** were synthesized from di(prop-2-yn-1-yl) 7,8′-methylenebis-[(*E*)-2-(benzylideneamino)-4*H*-chromene-3-carboxylates] **5a–5f** via a one-pot procedure involving 1,3-dipolar cycloaddition catalyzed by $CuSO_4$ and glucose under microwave irradiation at 100°C as a key step. Compounds **6d** and **6f** bearing 4-NO_2 and 4-OH groups exhibited good activity against some fungal strains, and compounds **6b** and **6f** bearing 4-Cl and 4-OH groups exhibited good antimicrobial activity against *S. pyogenes*, *E. coli*, *B. subtilis*, and *S. aureus*.

Keywords: methylenebisheterocycles, Knoevenagel condensation, click reaction, glucose, microwave-assisted synthesis, antimicrobial activity

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INTRODUCTION

4*H*-Chromenes are important heterocyclic compounds that play a significant role in biology and medicinal chemistry due to their diverse therapeutic activities such as antiangiogenic [1], antibacterial [2], anticancer [3], anticoagulant [4], anti-inflammatory [5], antitumor [6], antifungal [7], anti-HIV [8], antigenotoxic [9], antioxidant [10], antiviral [11], anti-Alzheimer [12], and other activities [13–19]. 1,2,3-Triazole derivatives also exhibit multiple biological activities such as antibacterial, antifungal, anti-hypoglycemic, antihypertensive, and analgesic [20–33].

Microwave irradiation is a replacement heating system which often increases the rate of chemical reactions [34–37]. Multicomponent reactions (MCRs) have found wide application due to their simplicity, high atomic economy, shortened reaction times, and the possibility of multidisciplinary integration [38–40].

In view of the above stated and in continuation of our work on heterocyclic compounds [41–46], herein we report the microwave-assisted synthesis of novel bis-chromene derivatives containing triazole fragments and their antimicrobial activity.

RESULTS AND DISCUSSION

The key intermediates **5a–5f** were synthesized as outlined in Scheme 1. The Knoevenagel condensation of 3,4′-methylenebis(2-hydroxybenzaldehyde) (**1**) and

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AQUATIC AVIFAUNAL DIVERSITY IN AND AROUND PROF GV SUDHAKAR RAO LOWER MANAIR DAM, KARIMNAGAR DISTRICT, TELANGANA.

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Abstract:

Lower Manair dam is one of the major fresh water ecosystems in Karimnagar district. It serves as for agricultural irrigation and also the recreation spot in surrounding people. The total twenty eight bird species belongs to sixteen families of aquatic birds were observed in the selected study area during the year 2021-22. Among the total species three species were noticed from Rallidae family, seven species were noticed from Ardeduae family, two species from Ciconiidae, Recurvirostridae, Alcedinidaeand Motacillidaefamilies respectively. The remaining families are individually represented one species each. The dominant species is *Fulicaatra* from Rallidae family and low abundant species are Accipitridae and Corvidae family species. In all the observed species one species is in vulnerable status, one species in threatened status, one species is in threatened status and remaining all are in least concern status of IUCN. The diversity indices such as Shannon, Simpson and dominance indices were calculated in the present study. The diversity indices clearly indicates that the aquatic avifauna is rich in summer season and less in south west monsoon season.

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Key words: species, avifauna, diversity, manair dam, season

INTRODUCTION:

Aquatic birds play an important role in almost all aquatic food webs and occupies in vital position. Most of the aquatic birds are in colourful forms, looking attractive and maintains the ecological balance by control pest and diversity of other organism in the surrounding aquatic ecosystem. Aquatic birds live in and near to the water, so it is also called water birds and they can able to fly from water to air and again to the water to catch the prey. The diversity of water birds is altered by huge anthrapogenic activities and climate change (Sekercioglu*et al.,* 2012).

India has rich biodiversity and recognised as the biodiversity hot spot among the seven mega biodiversity hot spots of the world. Telangana has more diverse to live the bird species because of its good climatic condition and neat geographical location (Balakrishna *et al.,* 2017). The total 2094 bird species were identified throughout the India, in this 417 bird species are belongs to aquatic forms. Analysis of different diversity indices will expose the relative abundance of the species in the community (Balakrishna *et al.,* 2013).

Professor GV Sudhakar Rao lower Manair Dam is located at Algunoor village of Thimmapur mandal of Karimnagar district. It is very near to the Karimnagar district headquarters distancing06 kilometres away from the city and surrounded by Chinthakunta,

Ravi Foods Pvt. Ltd.,

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RFPL/HR/ DT: 06-04-2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that, Miss. BANDARI SAHITHI ID No: 22-3-1007, student of VAAGDEVI DEGREE AND P.G COLLEGE (KAKATIYA UNIVERSITY) at Hanamakonda, Warangal has under gone Internship training at Ravi Foods Private Limited in the Production, Packing and Quality Control Laboratory from 08-02-2024 to 08-04-2024.

During her internship, she has completed all tasks assigned to her in an efficient manner and has contributed substantially to the organization by applying her theoretical knowledge and by giving fresh ideas.

Thanking you,

Yours faithfully,

For Ravi Foods (P) Limited

RAVI FOODS PVT. LTD. * Kattedan, Hyd. *

Authorized Signatory

Principal
Vaagdevi Degree & P.G. College
Kishanpura, Hanamkonda

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