A Potent Schiff base as a Colorimetric sensor for Co^{2+} Ions

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

A.ASHA BANU

(Reg. No:2021MSCC01)

Under the Guidance of

Dr. J.Jone Celestina

Assistant professor

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (Autonomous)

(Re-Accredited with "A^{++}" Grade by NAAC)

Madurai- 625018.

April – 2023

CERTIFICATE

This is to declare that the dissertation entitled **"Potent Schiff base as a Colorimetric sensor for Co^{2+}Ions"** Submitted to the FATIMA COLLEGE, Madurai, is partial fulfillment of the requirements of the award of the degree of Master of Science in Chemistry, is a record of research work done by A.ASHA BANU during the period of her study in the Department of Chemistry, Fatima College, Madurai.

Internal Guide
Dr.J.JONE CELESTINA
Assistant Professor
Department of Chemistry
Fatima College
Madurai.

Head of The Department
Dr.B.MEDONA,
Associate Professor & Head
Department of Chemistry
Fatima College
Madurai.

DECLARATION

I hereby declare that this project work entitled "**A Potent Schiff base as a Colorimetric sensor for Co^{2+} Ions**" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of Dr.J.Jone Celestina, Assistant Professor, Department of Chemistry, Fatima college, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

A. Asha Banu

(A.ASHA BANU)

(Reg.No.2021MSCC01)

Place: Madurai

Date: 12.4.23

DEVELOPMENT AND CHARACTERIZATION OF ZINC- ION CONDUCTING BATTERY ON BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) INCORPORATED WITH ZINC NITRATE

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. M. BHAVANI

(Register No: 2021MSCC02)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Center,

Coimbatore &

Emeritus Professor,

Bharathiar University,

Coimbatore-641045

INTERNAL GUIDE

Dr. B.MEDONA

Head & Associate professor,

Department of Chemistry,

Fatima College,

Madurai-625018.

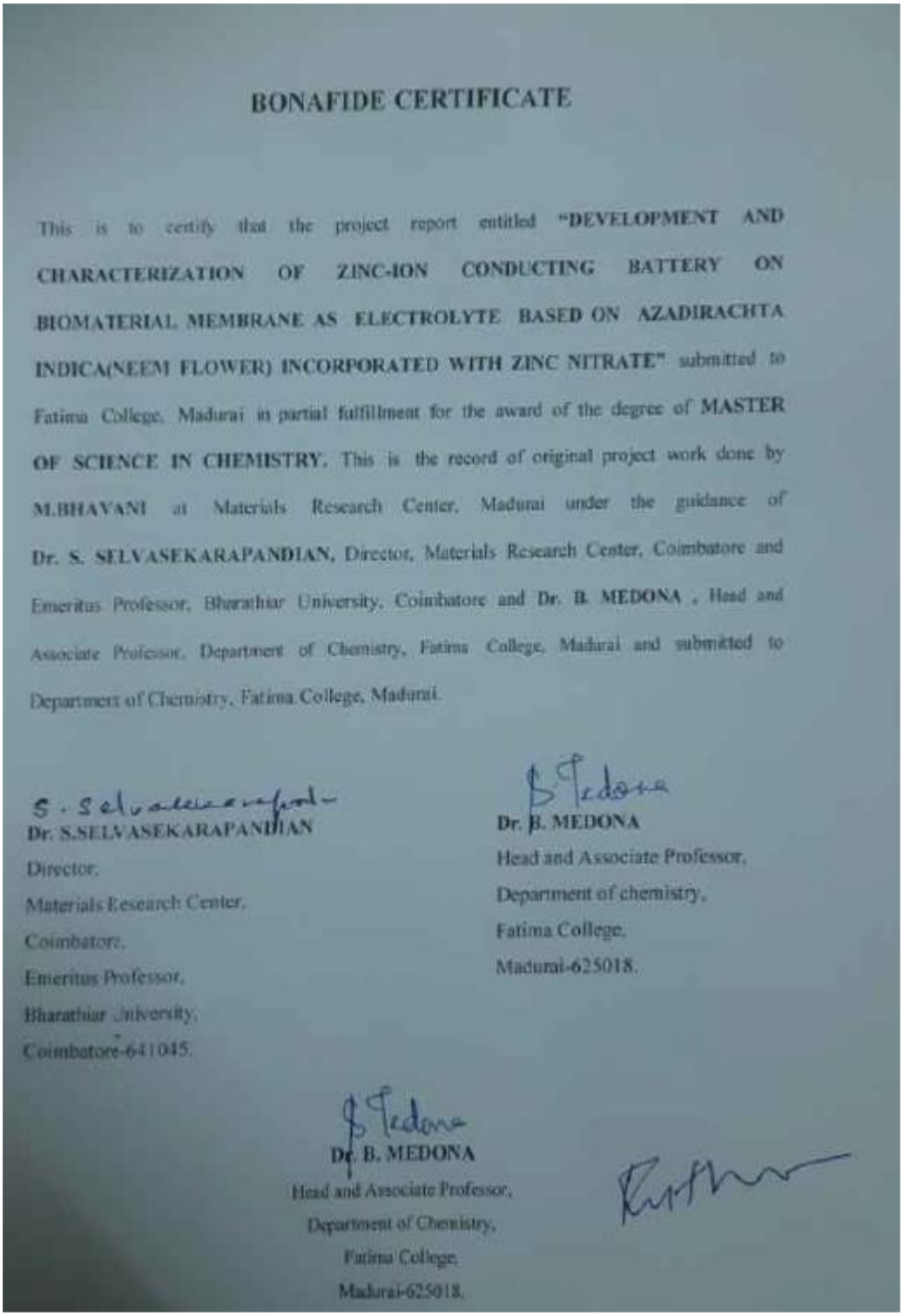
DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A^{++}' GRADE BY NAAC)

MARYLAND, MADURAI-625018.

APRIL 2023



BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"DEVELOPMENT AND CHARACTERIZATION OF ZINC-ION CONDUCTING BATTERY ON BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA(NEEM FLOWER) INCORPORATED WITH ZINC NITRATE"** submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY.** This is the record of original project work done by **M.BHAVANI** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN,** Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. B. MEDONA** , Head and Associate Professor, Department of Chemistry, Fatima College, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

S. Selvasekarapandian

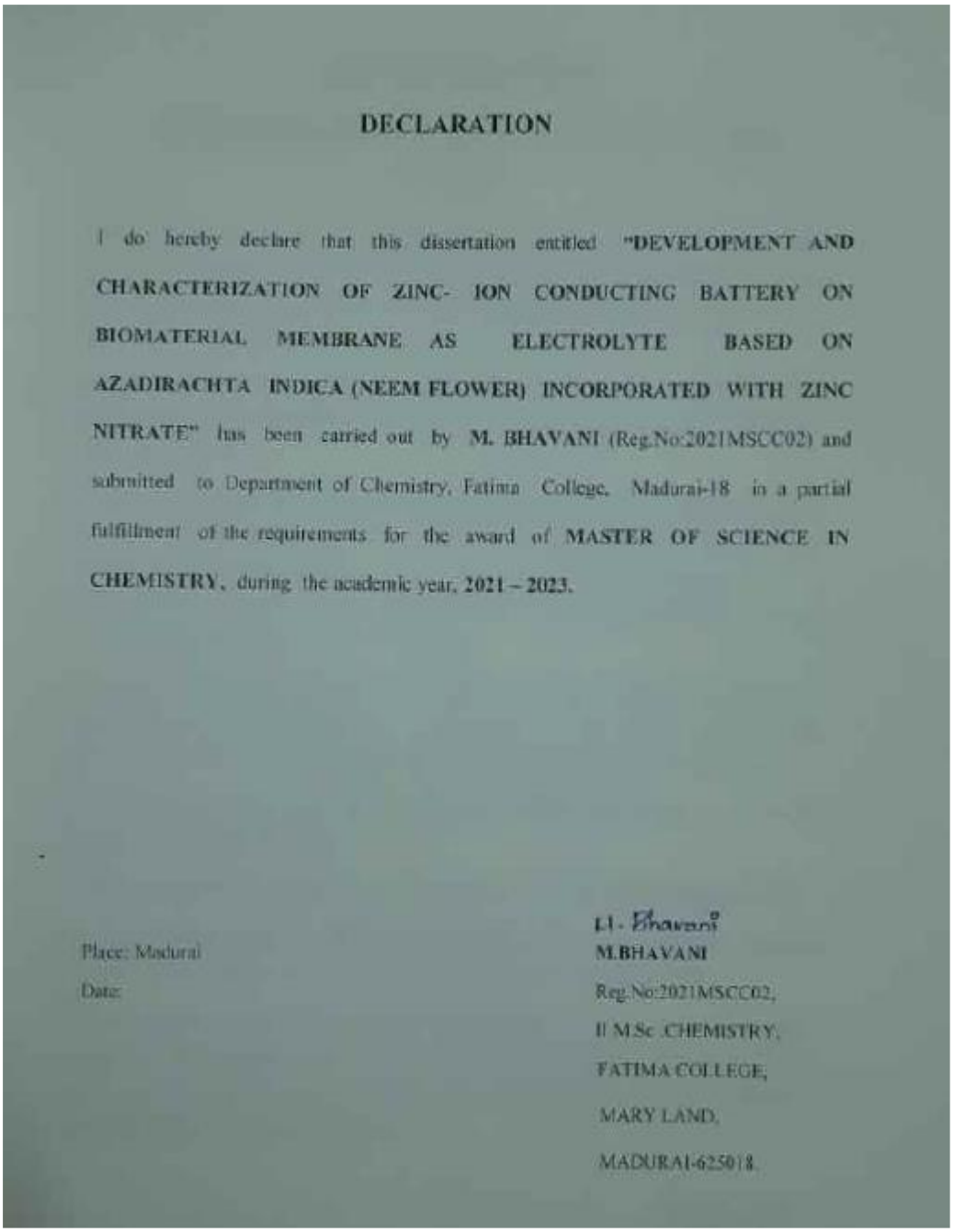
Dr. S.SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore,
Emeritus Professor,
Bharathiar University,
Coimbatore-641045.

B. Medona

Dr. B. MEDONA
Head and Associate Professor,
Department of chemistry,
Fatima College,
Madurai-625018.

B. Medona

Dr. B. MEDONA
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018.



DECLARATION

I do hereby declare that this dissertation entitled **"DEVELOPMENT AND CHARACTERIZATION OF ZINC- ION CONDUCTING BATTERY ON BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) INCORPORATED WITH ZINC NITRATE"** has been carried out by **M. BHAVANI** (Reg.No:2021MSCC02) and submitted to Department of Chemistry, Fatima College, Madurai-18 in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, **2021 – 2023.**

M. Bhavani

Place: Madurai
Date:

M.BHAVANI
Reg.No:2021MSCC02,
II M.Sc .CHEMISTRY,
FATIMA COLLEGE,
MARY LAND,
MADURAI-625018.

DEVELOPMENT AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM FORMATE FOR FABRICATION OF PROTON BATTERY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the

degree MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. N. DEEPTHI

(Register No: 2021MSCC03)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Center,

Coimbatore &

Emeritus Professor,

Bharathiar University,

Coimbatore-641045

INTERNAL GUIDE

Dr. S. SUKUMARI

Associate Professor,

Department of chemistry

Fatima College

Madurai-625018.

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A++' GRADE BY NAAC)

MARY LAND, MADURAI - 625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"DEVELOPMENT AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM FORMATE FOR FABRICATION OF PROTON BATTERY"** submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY.** This is the record of original project work done by **N. DEEPTHI** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN,** Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. S. SUKUMARI** Associate Professor, Department of Chemistry, Fatima college, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore &
Emeritus Professor,
Bharathiar University,
Coimbatore-641045.

Dr. S. SUKUMARI
Associate Professor,
Department of chemistry
Fatima College
Madurai-625018.

Dr. B. MEDONA
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018

DECLARATION

I do hereby declare that this dissertation entitled **"DEVELOPMENT AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM FORMATE FOR FABRICATION OF PROTON BATTERY"** has been carried out by **N.DEEPTHI. (Reg.No:2021MSCC03)** and submitted to Department of Chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021 – 2023.

Place: Madurai
Date: 12/4/23

N.Deepthi

N.DEEPTHI
Reg.No:2021MSCC03,
II M.Sc CHEMISTRY,
FATIMA COLLEGE,
MARY LAND,
MADURAI-18.

Aminoantipyrine based Schiff base as a selective sensor for Co^{2+} ions

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

R. Hema Dharshini

(Reg. No: 2021MSCC04)

Under the Guidance of

Dr. M. Priyadharsani

Assistant professor

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (Autonomous)

(Re-Accredited with "A^{++}" Grade by NAAC)

Madurai- 625018.

April – 2023

CERTIFICATE

This is to declare that the dissertation entitled **"Aminoantipyrine based Schiff base as a selective sensor for Co^{2+} ions"** Submitted to the **FATIMA COLLEGE**, Madurai, is partial fulfillment of the requirements of the award of the degree of **Master of Science in Chemistry**, is a record of research work done by **R. HEMA DHARSHINI** during the period of her study in the Department of Chemistry, Fatima College, Madurai.

Internal Guide

Dr. M. PRIYADHARSHINI

Assistant Professor

Department of Chemistry

Fatima College

Madurai.

Head of The Department

Dr. B. MEDONA

Head &Associate Professor

Department of Chemistry

Fatima College

Madurai.

DECLARATION

I hereby declare that this project work entitled "**Aminoantipyrine based Schiff base as a selective sensor for Co^{2+} ions**" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of **Dr. M. Priyadharsani,** Assistant Professor, Department of Chemistry, **Fatima college**, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

Place: Madurai

Date: 12/04/2023

R. Hemadharshini.

(R. Hema Dharshini)

(Reg. No.2021MSCC04)

ENHANCED PHOTOCATALYTIC DEGRADATION OF CATIONIC DYE BY CHEMICAL MEDIATED ZnO-Co_3O_4 NANOCOMPOSITE

A Project report submitted for partial fulfilment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By
Ms. A. INFANTAJENIFER
(RegisterNo:2021MSCC05)

DEPARMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
Re- Accredited with A++ Grade by NAAC
(CGPA: 3.61) in the fourth cycle)
MADURAI – 625018

Under the guidance of
Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D.,
Assistant professor

PG AND RESEARCH DEPARTMENT OF CHEMISTRY
N.M.S.S.Vellaichamy Nadar College (Autonomous)
(Re-Accredited with "A" Grade by NACC)
Nagamalai, Madurai- 625019.

BONAFIDE CERTIFICATE

This is to certify that the project entitled **"ENHANCED PHOTOCATALYTIC DEGRADATION OF CATIONIC DYE BY CHEMICAL MEDIATED ZnO-Co_3O_4 NANOCOMPOSITE"** was carried out by Ms INFANTAJENIFER A (REG.NO: 2021MSCC05) under the guidance of **Dr. J. JEYASUNDARI, M.Sc., MPhil., Ph.D.,** Assistant professor, PG & Research Department of Chemistry, N.M.S.S. VELLAICHAMY NADAR COLLEGE, Nagamalai, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

INTERNALGUIDE
Dr.B.Suganthana,
Assistant professor,
Department of Chemistry,
Fatima College,
Madurai-625 018.

EXTERNALGUIDE
Dr.J. Jeyasundari, M.Sc., M.Phil., Ph.D.,
Assistant professor,
PG & Research Department of chemistry,
N.M.S.S.V.N.College,
Madurai -625 019

HEAD OF THE DEPARTMENT
Dr. B. Medona, M.Sc., PhD.,
Associate Professor,
Department Of Chemistry,
Fatima college,
Madurai-625 018.

EXTERNALEXAMINER

DECLARATION

I do hereby declare that this dissertation entitled "ENHANCED PHOTOCATALYTIC DEGRADATION OF CATIONIC DYE BY CHEMICAL MEDIATED ZnO-Co_3O_4 NANOCOMPOSITE" submitted in Madurai Kamaraj University in partial fulfilment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original project work done by me at NMSSVN College, Nagamalai, Madurai – 625018. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

Infantajenifer

Place: Madurai

INFANTAJENIFER.A

Date: 10/04/2023

(2021MSCC05)

SYNTHESIS AND CHARACTERIZATION OF CuO-Co_3O_4 NANOCOMPOSITE AND THEIR CATALYTIC ACTIVITY TOWARDS THE REMOVAL OF ANIONIC DYE FROM AQUEOUS SOLUTION

A Project report submitted for partial fulfillment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. H. JANANI

(Register No: 2021MSCC06)

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re- Accredited with A++ Grade by NAAC

(CGPA: 3.61 in the fourth cycle)

MADURAI – 625018

Under the guidance of

Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D.,

Assistant professor

PG AND RESEARCH DEPARTMENT OF CHEMISTRY
N.M.S.S.Vellaichamy Nadar College (Autonomous)
(Re-Accredited with "A" Grade by NACC)
Nagamalai, Madurai- 625019.
APRIL -2023

BONAFIDE CERTIFICATE

This is to certify that the project entitled "SYNTHESIS AND CHARACTERIZATION OF CuO–Co_3O_4 NANOCOMPOSITE AND THEIR CATALYTIC ACTIVITY TOWARDS THE REMOVAL OF ANIONIC DYE FROM AQUEOUS SOLUTION" submitted is to Fatima College, Madurai in partial fulfilment for the award of degree of Master of Science in Chemistry is a bonafide record of the work carried by Ms. H. JANANI (2021MSCC06) under the guidance of Dr.J.JEYASUNDARI, M.Sc., M.Phil., Ph.D., Assistant, PG& Research Department of Chemistry, N.M.S.S.Vellaichamy Nadar College, Madurai - 625 019 in the academic year 2022-2023.

INTERNAL GUIDE

Dr. B. SUGANTHANA
Assistant Professor,
Department of Chemistry,
FatimaCollege,
Madurai - 625 018.

EXTERNAL GUIDE

Dr. J. JEYASUNDRI
Assistant professor,
PG & Research Department of Chemistry,
N.M.S.S.V.N.College,
Madurai - 625 019.

HEAD OF THE DEPARTMENT

Dr. B. MEDONA,
Associate Professor,
Department of Chemistry,
Fatima College,
Madurai- 625018.

EXTERNAL EXAMINAR

DECLARATION

I hereby declare that the work entitled "**SYNTHESISAND CHARACTERIZATION OF CuO–Co_3O_4 NANOCOMPOSITE AND THEIR CATALYTIC ACTIVITY TOWARDS THE REMOVAL OF ANIONIC DYE FROM AQUEOUS SOLUTION**" presented in this report has been carried out by me under the supervision of **Dr. B. SUGANTHANA**, Assistant professor, Department of Chemistry, Fatima College (autonomous), Madurai. The work presented here is in original and not formed the award of any other degree/Diploma /fellowship or other similar title to any candidate of any university.

H-Janani

H.JANANI

(REG.NO: 2021MSCC06)

Place: Madurai

Date: 10|04|2023

Development of a Potent Schiff base with biological applications

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

R. Janani

(Reg. No:2021MSCC07)

Under the Guidance of

Dr. J. Jone Celestina

Assistant professor

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (Autonomous)

(Re-Accredited with "A^{++}" Grade by NAAC)

Madurai- 625018.

April – 2023

CERTIFICATE

This is to declare that the dissertation entitled "Development of A Potent Schiff base with biological applications" Submitted to the FATIMA COLLEGE, Madurai, is partial fulfillment of the requirements of the award of the degree of Master of Science in Chemistry, is a record of research work done by R.Janani during the period of her study in the Department of Chemistry, Fatima College, Madurai.

INTERNAL GUIDE

Dr. J. JONE CELESTINA, M.SC., PH.D.,
Assistant Professor,
Department of Chemistry,
Fatima college,
Madurai – 625018.

HEAD OF THE DEPARTMENT

Dr. B. MEDONA, M.Sc., PH.D.,
Associate professor,
Department of Chemistry,
Fatima College,
Madurai – 625018.

DECLARATION

I hereby declare that this project work entitled "Development of A Potent Schiff base with biological applications" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of Dr. J. Jone Celestina, Assistant Professor, Department of Chemistry, Fatima college, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

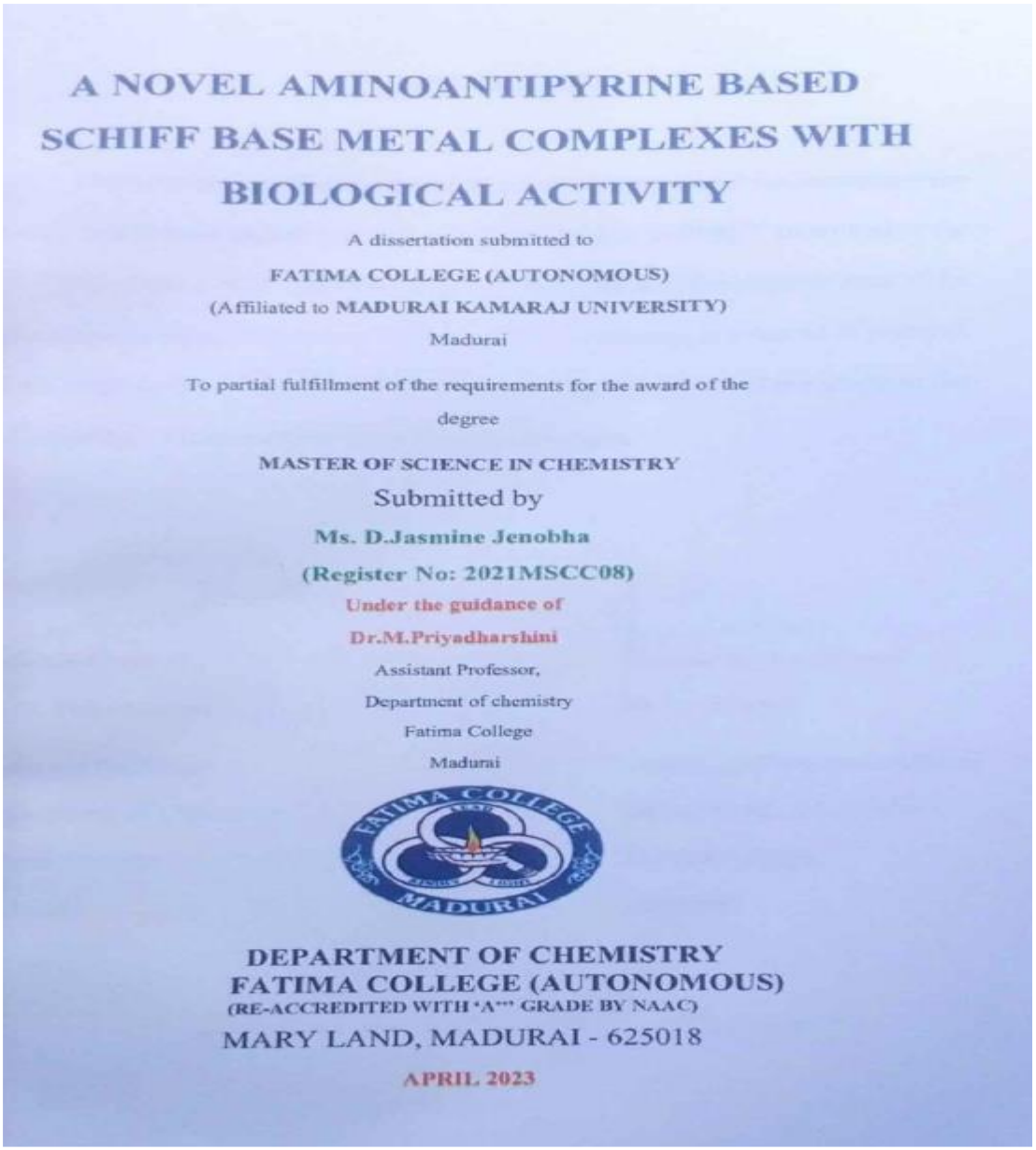
R. Janani

Place: Madurai

Date:

R. JANANI

(REG.NO: 2021MSCC07)



A NOVEL AMINOANTIPYRINE BASED SCHIFF BASE METAL COMPLEXES WITH BIOLOGICAL ACTIVITY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY)

Madurai

To partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. D.Jasmine Jenobha

(Register No: 2021MSCC08)

Under the guidance of

Dr.M.Priyadharshini

Assistant Professor,

Department of chemistry

Fatima College

Madurai

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A''' GRADE BY NAAC)

MARY LAND, MADURAI - 625018

APRIL 2023

CERTIFICATE

This is to declare that the dissertation entitled **"A novel aminoantipyrine based Schiff base metal complexes with biological activity"** Submitted to the FATIMA COLLEGE, Madurai, is partial fulfillment of the requirements of the award of the degree of **Master of Science in Chemistry**, is a record of research work done by D. **JASMINE JENOBHA** during the period of her study in the Department of Chemistry, Fatima College, Madurai.

Internal Guide

Dr. M. Priyadharsani

Assistant Professor

Department of Chemistry

Fatima College

Madurai.

Head of the Department

Dr. B. Medona

Associate Professor &Head

Department of Chemistry

Fatima College

Madurai.

DECLARATION

I hereby declare that this project work entitled "**A novel aminoantipyrine based Schiff base metal complexes with biological activity**" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of **Dr. M. Priyadharsani,** Assistant Professor, Department of Chemistry, **Fatima college**, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

D. Jasmina Jenobha

Place :Madurai

(D.JASMINE JENOBHA)

Date : 10.04.2023

(2021MSCC08)

SYNTHESIS AND CHARACTERIZATION OF ORGANOGEL: A *N*-LINKED GLYCOSIDES USING P-TOLUIDINE

A PROJECT REPORT SUBMITTED FOR PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF DEGREE OF

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

K.LOGESHWARI

(REG.NO: 2021MSCC11)

FATIMA COLLEGE (AUTONOMOUS)

Re- Accredited with A++ Grade by NAAC

(CGPA: 3.61 in the fourth cycle)

MADURAI – 625018.

Under the guidance of

Dr. K. KARTHIK KUMAR, M.Sc., Ph.D.,

ASSISTANT PROFESSOR

Since 1881

PG AND RESEARCH DEPARTMENT OF CHEMISTRY

THE AMERICAN COLLEGE (Autonomous)

(Re-Accredited with "A" Grade by NAAC)

MADURAI-625002 (APRIL 2023)

1

OMCRL
(Formulation & Drug Consultancy Services)

E05-Viprossa,
Thuvariman,
Madurai – 625019,
Tamilnadu

Date: 01.04.2023

CERTIFICATE

This is to certify that **Ms. K.Logeshwari** [Reg.No: 2021MSCC11], II. M.Sc., student, Department of Chemistry(PG), **Fatima college, Madurai-18** carried out her M.Sc., chemistry project work on **"Synthesis and Characterization of Organogel: A *N*-linked glycosides using p-Toluidine"** in the **Organic and Material Chemistry Research Laboratory, The American College, Madurai-02** from **13.12.2022-01.04.2023**, for a period of three months, under the guidance of **Dr. K.Karthik Kumar,** Assistant professor, PG & Research Department of Chemistry, The American College, Madurai-02.

Dr. K.Karthik Kumar

Dr. K. KARTHIK KUMAR
ASSISTANT PROFESSOR
PG & Research Department of Chemistry
MKU - Guideship No: 1774
The American College,
Madurai - 625002.

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"SYNTHESIS AND CHARACTERIZATION OF ORGANOGEL: A *N*-LINKED GLYCOSIDES USING P-TOLUIDINE"** carried out by Ms. K.LOGESHWARI (2021MSCC11) under the guidance of Dr. K. KARTHIK KUMAR, M.Sc. Ph.D., Assistant professor, PG & Research Department of chemistry, **ORGANIC AND MATERIAL CHEMISTRY RESEARCH LABORATORY**, The American college, Madurai-625002 and submitted to Department of chemistry, Fatima college Madurai.

INTERNAL GUIDE
Dr. V. ARUL DEEPA MSc, MPhil, Ph.D.
Assistant professor,
Department of chemistry,
Fatima college
Madurai -625018

EXTERNAL GUIDE
Dr. K. KARTHIK KUMAR., MSc., Ph.D.,
Assistant professor,
PG & Research Department of Chemistry
The American college
Madurai -625 002

HEAD OF THE DEPARTMENT
Dr. B. MEDONA MSc., Ph.D.,
Associate professor,
Department of chemistry,
Fatima collegeMadurai-625018

DECLARATION

I do hereby solemnly declare that this project report entitled **"SYNTHESIS AND CHARACTERIZATION OF ORGANOGEL: A *N*-LINKED GLYCOSIDES USING P-TOLUIDINE"** submitted to Fatima college in partial fulfilment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original project work done by me at **THE AMERICAN COLLEGE**, Tallakulam, Madurai-625002. I also declare that this part of work has not been published earlier elsewhere in any manner.

PLACE: Madurai
DATE:

K. Logeshwari
K.LOGESHWARI
2021MSCC11

Synthesis and Characterization of 4,6-*O*-Ethylidene-α-D-glucopyranose based Organogel using p-chloroaniline

A Project report submitted for partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

V.MAGIMAGRACE

(REG.NO.2021MSCC13)

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re- Accredited with A++ Grade by NAAC

(CGPA: 3.61) in the fourth cycle)

MADURAI – 625018

Under the guidance of

Dr. K. KARTHIK KUMAR

ASSISTANT PROFESSOR

Since 1881

PG&RESEARCH DEPARTMENT OF CHEMISTRY

THE AMERICAN COLLEGE

MADURAI-625 002

APRIL-2023

BONAFIDE CERTIFICATE

This is to certify that **Ms. V. MAGIMAGRACE**, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"Synthesis and Characterization of 4,6-*O*-Ethylidene-α-D-glucopyranose based Organogel using p-chloroaniline"** the academic year 2022-2023 under the supervision of Dr. K. Karthik Kumar, Assistant Professor, PG&Research Department of chemistry, The American college, Madurai-625 002.This is to certify that no part of the work has been presented for any degree/diploma in any other form.

INTERNAL GUIDE

Dr. K. SUBIMOL, M.Sc., M.Phil., Ph.D.,
Assistant Professor
Department of Chemistry
Fatima college
Madurai – 625018.

EXTERNAL GUIDE

Dr. K. KARTHIK KUMAR, M.Sc., Ph.D.,
Assistant Professor
PG & Research Department of Chemistry
The American College
Madurai - 625002.

HEAD OF THE DEPARTMENT

Dr. B. Medona, M.Sc., Ph.D.,
Associate professor
Department of Chemistry
Fatima College
Madurai – 625 018

OMCRL
(Formulation & Drug Consultancy Services)

E05-Viprossa,
Thuvariman,
Madurai – 625019,
Tamilnadu

Date: 01.04.2023

CERTIFICATE

This is to certify that **Ms. V. Magimagrace** [Reg.No: 2021MSCC13], II. M.Sc., student, Department of Chemistry(PG), **Fatima college, Madurai-18** carried out her M.Sc., chemistry project work on **"Synthesis and Characterization of 4,6-*O*-Ethylidene-α-D-glucopyranose based Organogel using p-chloroaniline"** in the **Organic and Material Chemistry Research Laboratory, The American College, Madurai-02** from **13.12.2022-01.04.2023**, for a period of three months, under the guidance of **Dr. K. Karthik Kumar,** Assistant professor, PG & Research Department of Chemistry, The American College, Madurai-02.

Dr. K. Karthik Kumar

Dr. K. KARTHIK KUMAR
ASSISTANT PROFESSOR
PG & Research Department of Chemistry
MKU - Guideship No: 1774
The American College,
Madurai - 625002.

DECLARATION

I do hereby declare that this dissertation entitled "**Synthesis and Characterization of 4,6-*O*-Ethylidene-α-D-glucopyranose based Organogel using p-chloroaniline**" submitted to Fatima college in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original project work done by me at The American College Madurai - 625002. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

V Magimagrace

Place: Madurai
Date:

V. MAGIMAGRACE
(REG.NO. 2021MSCC13)

GREEN SYNTHESIS OF TITANIUM DIOXIDE NANOPARTICLE USING *PUNITA GRANATUM* AQUEOUS LEAF EXTRACT AND EVALUATING ITS ANTIMICROBIAL ACTIVITY

A Project report submitted for partial fulfillment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

M.MANSOORUL SAJITHA THASLEEM

(REG.NO: 2021MSCC14)

DEPARTMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
Re- Accredited with A++ Grade by NAAC
(CGPA: 3.61 in the fourth cycle)
MADURAI – 625018

Under the guidance of

Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D.,
Assistant professor

PG AND RESEARCH DEPARTMENT OF CHEMISTRY
N.M.S.S.Vellaichamy Nadar College (Autonomous)
(Re-Accredited with "A" Grade by NACC)
Nagamalai, Madurai- 625019.

APRIL-2023

BONAFIDE CERTIFICATE

This is to certify that the report entitled "GREEN SYNTHESIS OF TITANIUM DIOXIDE NANOPARTCLE USING *PUNITA GRANATUM* AQUEOUS LEAF EXTRACT AND EVALUATING ITS ANTIMICROBIAL ACTIVITY" was carried out by Ms. M.MANSOORUL SAJITHA THASLEEM (REG.NO: 2021MSCC14) under the guidance of Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D., Assistant professor, PG & Research Department of chemistry, N.M.S.S. VELLAICHAMY NADAR COLLEGE, Nagamalai, Madurai – 625 019 and Submitted to Department of Chemistry, Fatima college, Madurai.

INTERNAL GUIDE
Dr. A. RAJESWARI, M.Sc., M.Phil., Ph.D.
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Department of Chemistry,
Fatima college,
Madurai – 625018.

EXTERNAL GUIDE
Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D.,
Assistant Professor,
PG & Research Department of Chemistry,
N.M.S.S.V.N College,
Madurai - 625019.

HEAD OF THE DEPARTMENT
Dr. B. MEDONA, M.Sc., Ph.D.,
Associate professor,
Department of Chemistry,
Fatima College,
Madurai – 625018

EXTERNAL EXAMINAR

DECLARATION

I do hereby declare that this dissertation entitled "GREEN SYNTHESIS OF TITANIUM DIOXIDE NANOPARTCLE USING *PUNITA GRANATUM* AQUEOUS LEAF EXTRACT AND EVALUATING ITS ANTIMICROBIAL ACTIVITY" submitted to Madurai Kamaraj University in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original project work done by me at NMSSVN College Nagamalai, Madurai - 625018. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

M. Mansoorul Sajitha Thasleem

Place: Madurai

Date: 10/04/2023

M.MANSOORUL SAJITHA THASLEEM

(REG.NO: 2021MSCC14)

DEVELOPMENT AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEMFLOWER) AND SODIUM PERCHLORATE FOR FABRICATION OF SODIUM ION BATTERY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the

degree MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. P. MATHU MEENA

(Register No: 2021MSCC15)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Center,

Coimbatore &

Emeritus Professor,

Bharathiar University,

Coimbatore-641045

INTERNAL GUIDE

Dr. S. SUKUMARI

Associate Professor,

Department of chemistry

Fatima College

Madurai-625018

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A+++' GRADE BY NAAC)

MARYLAND, MADURAI-625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND SODIUM PERCHLORATE"** submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY.** This is the record of original project work done by **P. MATHU MEENA** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN,** Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. S. SUKUMARI,** Associate professor, Department of Chemistry, Fatima college, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN

Director,
Materials Research Center,
Coimbatore &
Emeritus Professor,
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Coimbatore-641045

Dr. S. SUKUMARI

Associate Professor,
Department of chemistry
Fatima College
Madurai-625018

Dr. B. MEDONA

Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai.

DECLARATION

I do hereby declare that this dissertation entitled **"SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND SODIUM PERCHLORATE"** has been carried out by **P. MATHU MEENA.** (Reg.No:2021MSCC15) and submitted to Department of Chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021 – 2023.

Place: Madurai
Date: 12/4/23

P. Mathu Meena

P. MATHU MEENA
Reg.No:2021MSCC15
II M.Sc CHEMISTRY,
FATIMA COLLEGE,
MARY LAND,
MADURAI-18.

SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH LITHIUM NITRATE FOR THE FABRICATION OF LITHIUM ION BATTERY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. R.C.PERARASI

(Register No: 2021MSCC16)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

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INTERNAL GUIDE

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DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH "A" GRADE BY NAAC)

MARY LAND , MADURAI-625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH LITHIUM NITRATE FOR THE FABRICATION OF LITHIUM ION BATTERY** submitted to Fatima College, Madurai, in partial fulfilment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **R. C. PERARASI** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr.B. SUGANTHANA**, Associate Professor, Department of Chemistry and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
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Dr. B.MEDONA
Head and Associate Professor,
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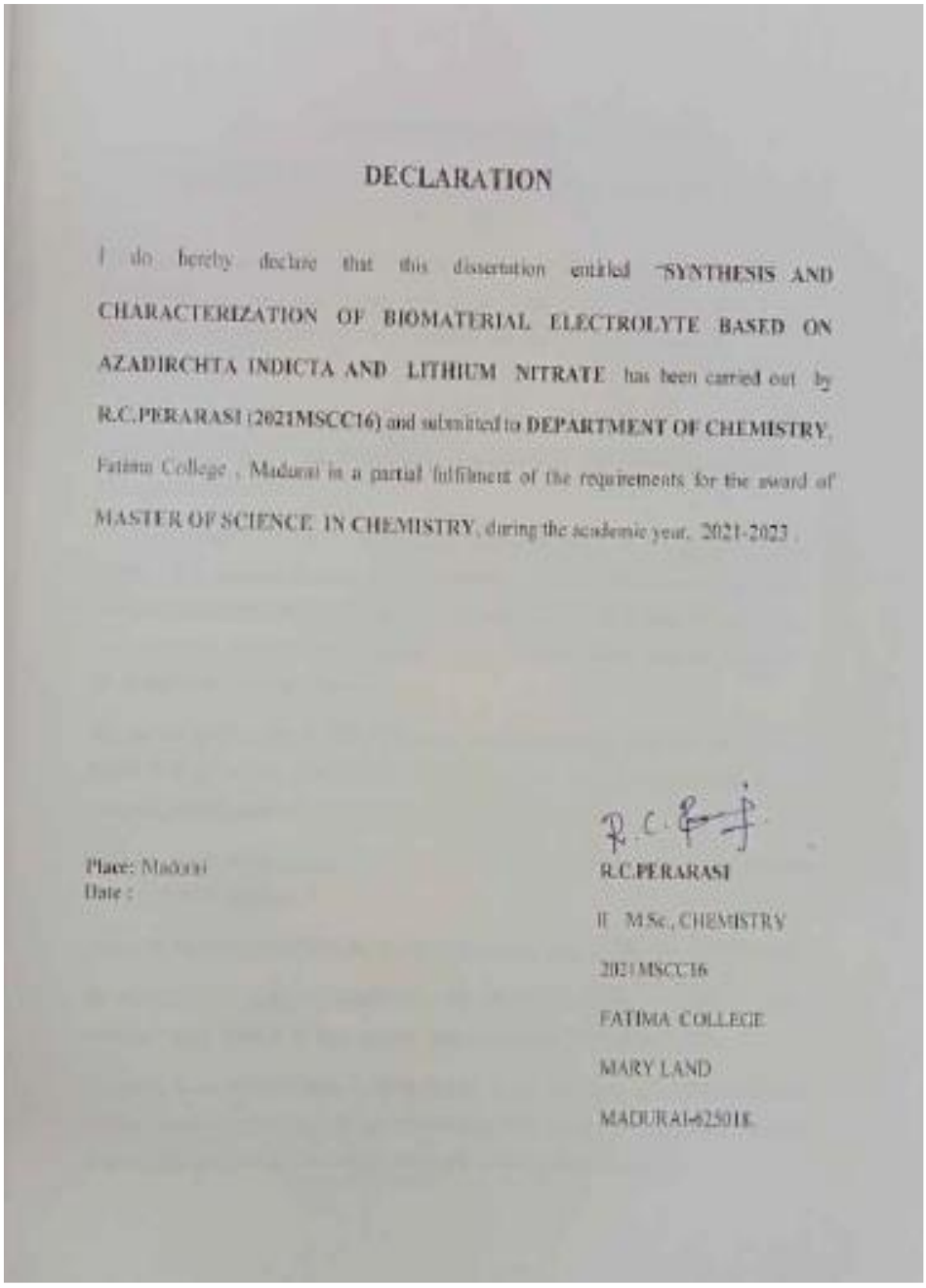
Madurai-625018.



DECLARATION

I do hereby declare that this dissertation entitled "**SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRCHTA INDICTA AND LITHIUM NITRATE** has been carried out by **R.C.PERARASI (2021MSCC16)** and submitted to **DEPARTMENT OF CHEMISTRY**, Fatima College , Madurai in a partial fulfilment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021-2023 .

Place: Madurai
Date :

R.C.PERARASI
II M.Sc., CHEMISTRY
2021MSCC16
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MARY LAND
MADURAI-625018.

PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE DYE BY ZnO-Cu_2O NANOCOMPOSITES UNDER SUNLIGHT

A Project report submitted for partial fulfillment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. S. SANTHANAKARTHIKA

(Register No: 2021MSCC17)

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re-Accredited with 'A++' Grade by NAAC (4th Cycle)

MARY LAND, MADURAI – 625 018

Under the Guidance of

Dr. J.ANNARAJ

Associate Professor and Head

Department of Materials Science

School of Chemistry

Madurai Kamaraj University

University with potential for excellence

(Re-Accredited with A++ Grade by NAAC (CGPA: 3.54) in the fourth cycle)

Madurai– 625021.

April - 2023

BONAFIDE CERTIFICATE

This is to certify that S. SANTHANAKARTHIKA. M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled "PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE DYE BY ZnO-Cu_2O NANOCOMPOSITES UNDER SUNLIGHT" the academic year 2021-2023 under the supervision of Dr. J.ANNARAJ, Associate Professor and Head, Department of Materials Science, School of Chemistry, Madurai Kamaraj University, Madurai– 625021. This is to certify that no part of the work has been presented for any degree / diploma in any other form.

Dr. B. VINOSHA
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ENDORSEMENT

Dr. B.MEDONA
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Fatima college,
Madurai -625018.

EXTERNAL EXAMINER

DECLARATION

I do here by declare that this dissertation entitled PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE DYE BY ZnO-Cu_2O NANOCOMPOSITES UNDER SUNLIGHT submitted to Fatima College in partial fulfillment of requirement for the award of MASTER OF SCIENCE IN CHEMISTRY, is a record of original research work done by me. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

Place: Madurai - 18.

Date:

Signature of the Candidate

(S.SANTHANAKARTHIKA

2021MSCC17)

SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND MAGNESIUM CHLORIDE SALT FOR THE APPLICATION OF ELECTROCHEMICAL DEVICES

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. K.SHEEBA

(Register No: 2021MSCC18)

EXTERNAL GUIDE

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Coimbatore &
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Assistant Professor,
Department of chemistry,
Fatima College
Madurai-625018

DEPARTMENT OF CHEMISRTY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A+++' GRADE BY NAAC)

MARY LAND, MADURAI-625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"Synthesis and characterization of Biomaterial membrane as electrolyte based on Azadirachta Indica (Neem flower) and Magnesium chloride salt for the application of electrochemical devices"** submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **K. SHEEBA** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. J. BELINDA ASHA** Assistant Professor, Department of chemistry, Fatima College Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

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Coimbatore-641045.

J. Belinda Asha

Dr. J. BELINDA ASHA
Assistant Professor,
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Madurai-625018.

B. Medona

Dr. B. MEDONA
Head and Associate Professor,
Department of chemistry,
Fatima College,
Madurai-625018.

DECLARATION

I do hereby declare that this dissertation entitled **"Synthesis and characterization of Biomaterial membrane as electrolyte based on Azadirachta Indica (Neem flower) and Magnesium Chloride salt for the application of Electrochemical devices"** has been carried out by **K. SHEEBA** (Reg.No:2021MSCC18) and submitted to Department of chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021 – 2023.

Place: Madurai
Date:

K. Sheeba
K. SHEEBA
Reg.No:2021MSCC18
II MSC.CHEMISTRY
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MARY LAND,
MADURAI-625018.

Synthesis and Characterization of Organogel using 4,6-*O*-Butylidine-α-D-glucopyranose and p-Anisidine

A project report submitted for

partial fulfilment of the requirement for the award of degree of

MASTER OF SCIENCE IN CHEMISTRY

K. SNEKA

[Reg. No: 2021MSCC19]

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re- Accredited with A++ Grade by NAAC

(CGPA: 3.61) in the fourth cycle)

MADURAI – 625018.

Under the guidance of

Dr. K. KARTHIK KUMAR, M.Sc., Ph.D.,

Assistant professor

Since 1881

PG & RESEARCH DEPARTMENT OF CHEMISTRY

THE AMERICAN COLLEGE

MADURAI-625002

APRIL – 2023

BONAFIDE CERTIFICATE

This is to certify that **Ms. K. SNEKA, M.Sc., (Reg. No: 2021MSCC19)** (Chemistry) Student of Fatima College, Madurai has done the project work entitled "**Synthesis and Characterization of Organogel using 4,6-*O*-Butylidine-α-D-glucopyranose and p-Anisidine**" during the academic year 2022-2023 under the supervision of **Dr. K. KARTHIK KUMAR, M.Sc., Ph.D.** Assistant Professor, PG & Research Department of chemistry, The American College, Madurai-625002.

INTERNAL GUIDE

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Department of Chemistry,
Fatima College,
Madurai-625018.

EXTERNAL GUIDE

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Assistant Professor,
PG & Research Department of Chemistry,
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Dr. B. MEDONA, M.Sc., Ph.D.

HEAD OF THE DEPARTMENT

Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018.

OMCRL

(Formulation & Drug Consultancy Services)

E05-Viprossa,
Thuvariman,
Madurai – 625019,
Tamilnadu

Date: 01.04.2023

CERTIFICATE

This is to certify that **Ms. K. Sneka** [Reg.No: 2021MSCC19], II. M.Sc., student, Department of Chemistry(PG), **Fatima college, Madurai-18** carried out her M.Sc., chemistry project work on **"Synthesis and Characterization of Organogel using 4,6-*O*-Butylidene-α-D-glucopyranose and p-Anisidine"** in the **Organic and Material Chemistry Research Laboratory, The American College, Madurai-02** from **13.12.2022-01.04.2023**, for a period of three months, under the guidance of **Dr. K. Karthik Kumar,** Assistant professor, PG &Research Department of Chemistry, The American College, Madurai-02.

Dr. K. Karthik Kumar

Dr. K. KARTHIK KUMAR
PG & RESEARCH DEPARTMENT OF CHEMISTRY
THE AMERICAN COLLEGE
MADURAI-625 002

DECLARATION

I do hereby solemnly declare that this dissertation entitled **"Synthesis and Characterization of Organogel using 4,6-*O*-Butylidine-α-D-glucopyranose and p-Anisidine"** submitted to Fatima college in partial fulfilment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY** is a record of original project work done by me. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

Date:

Place: Madurai

K. Sneka

SNEKA K

(Reg. No: 2021MSCC19)

PERFORMANCE OF LITHIUM ION BATTERY USING BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH LITHIUM CHLORIDE

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

In partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. V. SOUNTHARYA

(Register No: 2021MSCC20)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

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Coimbatore &

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Coimbatore– 641045

INTERNAL GUIDE

Dr. J. BELINDA ASHA

Assistant Professor,

Department of Chemistry

Fatima College

Madurai-625018

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A''' GRADE BY NAAC)

MARY LAND, MADURAI – 625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled **"PERFORMACE OF LITHIUM ION BATTERY USING BIOMATERIAL MEMEBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH LITHIUM CHLORIDE"** submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **V.SOUNTHARYA** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore, and **Dr. J. BELINDA ASHA**, Assistant Professor, Department of Chemistry, Fatima College, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore &
Emeritus Professor,
Bharathiar University,
Coimbatore - 641045

Dr. J. BELINDA ASHA
Assistant Professor,
Department of Chemistry
Fatima College
Madurai - 625018

Dr. B. MEDONA
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018

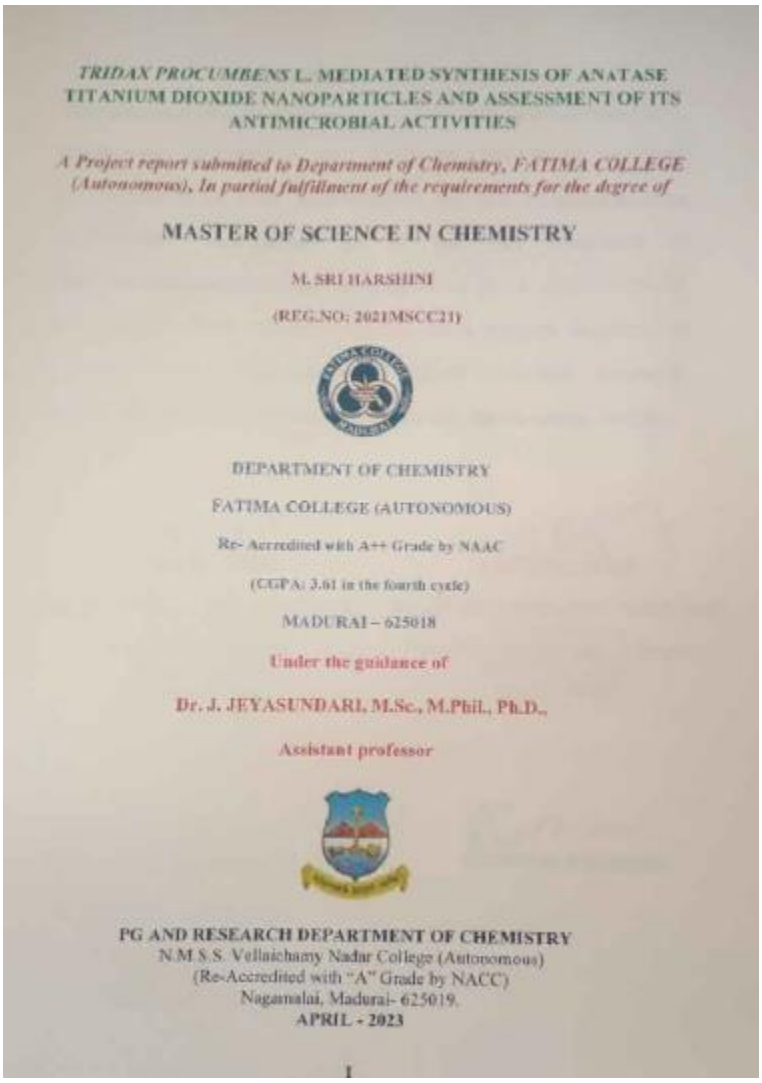
DECLARATION

I do hereby declare that this dissertation entitled **"PERFORMANCE OF LITHIUM ION BATTERY USING BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH LITHIUM CHLORIDE"** has been carried out by **V.SOUNTHARYA** (Reg.No:2021MSCC20) and submitted to Department of Chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021 – 2023.

V. Sounthanya.

Place: Madurai
Date:

V.SOUNTHARYA
Reg.No:2021MSCC20
II M.Sc CHEMISTRY
FATIMA COLLEGE,
MARY LAND,
MADURAI-625018.



TRIDAX PROCUMBENS L. MEDIATED SYNTHESIS OF ANATASE TITANIUM DIOXIDE NANOPARTICLES AND ASSESSMENT OF ITS ANTIMICROBIAL ACTIVITIES

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

M. SRI HARSHINI

(REG.NO: 2021MSCC21)

DEPARTMENT OF CHEMISTRY

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Re- Accredited with A++ Grade by NAAC

(CGPA: 3.61 in the fourth cycle)

MADURAI – 625018

Under the guidance of

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Assistant professor

PG AND RESEARCH DEPARTMENT OF CHEMISTRY

N.M.S.S. Vellaichamy Nadar College (Autonomous)

(Re-Accredited with "A" Grade by NACC)

Nagamalai, Madurai- 625019.

APRIL - 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "*TRIDAX PROCUMBENS* L. MEDIATED SYNTHESIS OF ANATASE TITANIUM DIOXIDE NANOPARTICLES AND ASSESSMENT OF ITS ANTIMICROBIAL ACTIVITIES" was carried out by Ms. SRI HARSHINI M (REG.NO:2021MSCC21) under the guidance of Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D., Assistant professor, PG & Research Department of chemistry, N.M.S.S. VELLAICHAMY NADAR COLLEGE, Nagamalai, Madurai and Submitted to Department of Chemistry, Fatima college, Madurai.

INTERNAL GUIDE

Dr. A. RAJESWARI, M.Sc., M.Phil., Ph.D.,
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Department of Chemistry,
Fatima college,
Madurai – 625018.

EXTERNAL GUIDE

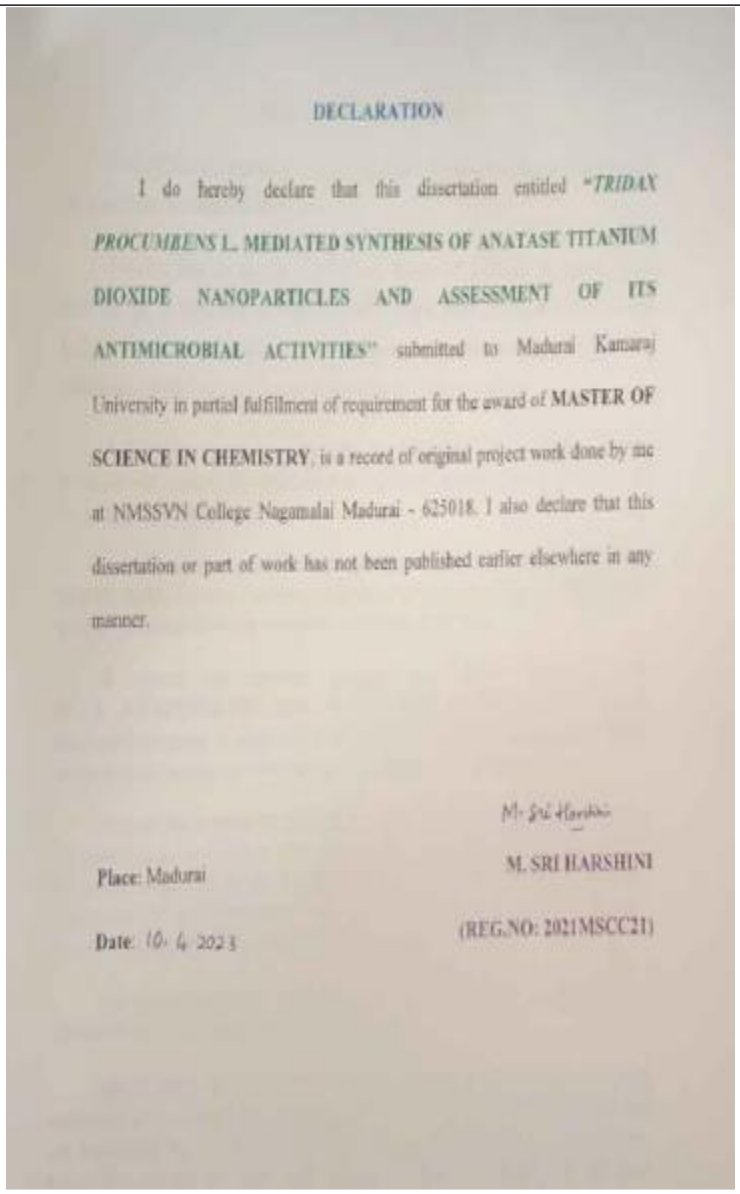
Dr. J. JEYASUNDARI, M.Sc., M.Phil., Ph.D.,
Assistant Professor,
PG & Research Department of Chemistry,
N.M.S.S.V.N College
Madurai - 625019.

HEAD OF THE DEPARTMENT

Dr. B. MEDONA, M.Sc., Ph.D.,
Associate professor,
Department of Chemistry,
Fatima College,
Madurai – 625018.

EXTERNAL EXAMINER

2



DECLARATION

I do hereby declare that this dissertation entitled "*TRIDAX PROCUMBENS* L. MEDIATED SYNTHESIS OF ANATASE TITANIUM DIOXIDE NANOPARTICLES AND ASSESSMENT OF ITS ANTIMICROBIAL ACTIVITIES" submitted to Madurai Kamaraj University in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original project work done by me at NMSSVN College Nagamalai Madurai - 625018. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

M. Sri Harshini

Place: Madurai — M. SRI HARSHINI

Date: 10.4.2023 — (REG.NO: 2021MSCC21)

Fluorescent Schiff base as a selective sensor for metal ions

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

M.SUBASHINI

(Reg. No:2021MSCC22)

Under the Guidance of

Dr. V.Arul Deepa

Assistant professor

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (Autonomous)

(Re-Accredited with "A^{++}" Grade by NAAC)

Madurai- 625018.

April – 2023

CERTIFICATE

This is to declare that the dissertation entitled **"Fluorescent Schiff base as a selective sensor for metal ions"** Submitted to the **FATIMA COLLEGE,** Madurai, is partial fulfillment of the requirements of the award of the degree of **Master of Science in Chemistry,** is a record of research work done by **M.SUBASHINI** during the period of her study in the Department of Chemistry, Fatima College, Madurai.

Internal Guide

Dr.V.Arul Deepa

Assistant Professor

Department of Chemistry

Fatima College

Madurai.

Head of The Department

Dr.B.Medona

Associate Professor & Head

Department of Chemistry

Fatima College

Madurai.

DECLARATION

I hereby declare that this project work entitled "**Fluorescent Schiff base as a selective sensor for metal ions**" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of **Dr.V.Arul Deepa,** Assistant Professor, Department of Chemistry, **Fatima college**, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

M.Subashini

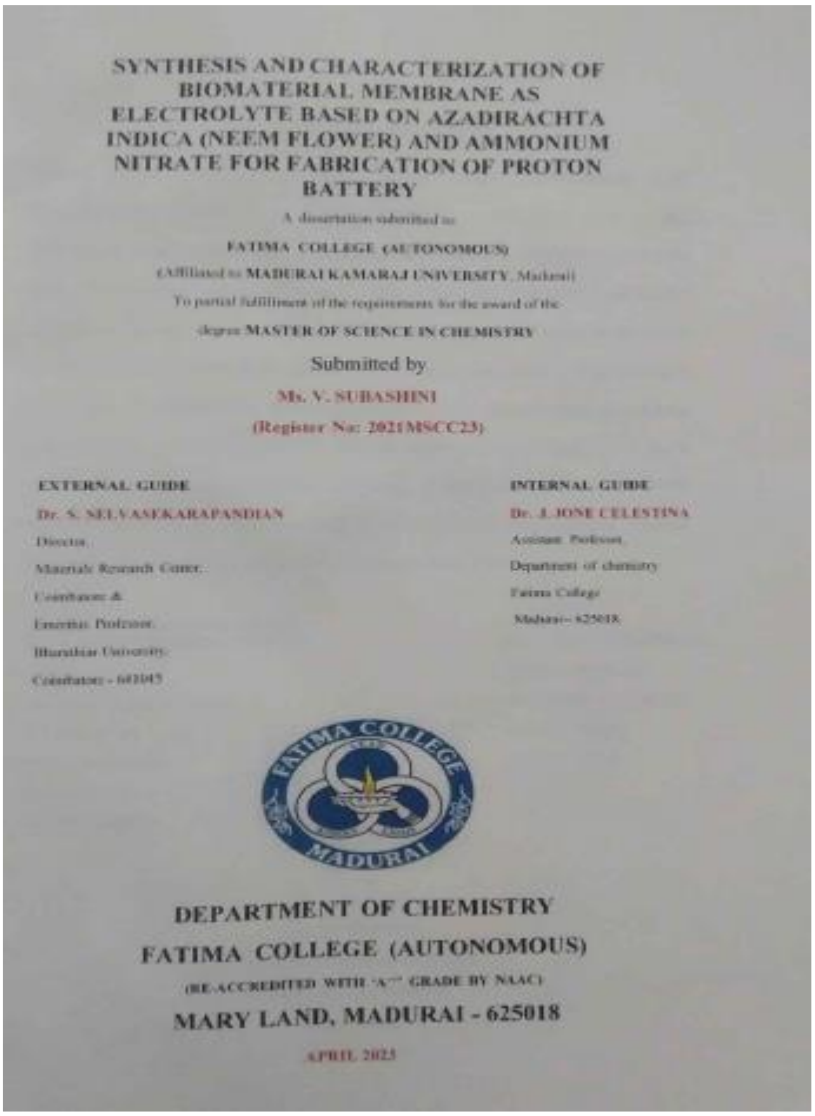
Siganture of the candidate

Place: Madurai

Date: 10.04.2023

M. Subashini

(Reg.no.2021MSCC22)



SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM NITRATE FOR FABRICATION OF PROTON BATTERY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

To partial fulfillment of the requirements for the award of the

degree MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. V. SUBASHINI

(Register No: 2021MSCC23)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

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Materials Research Center,

Coimbatore &

Emeritus Professor,

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Coimbatore - 641045

INTERNAL GUIDE

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Assistant Professor,

Department of chemistry

Fatima College

Madurai – 625018.

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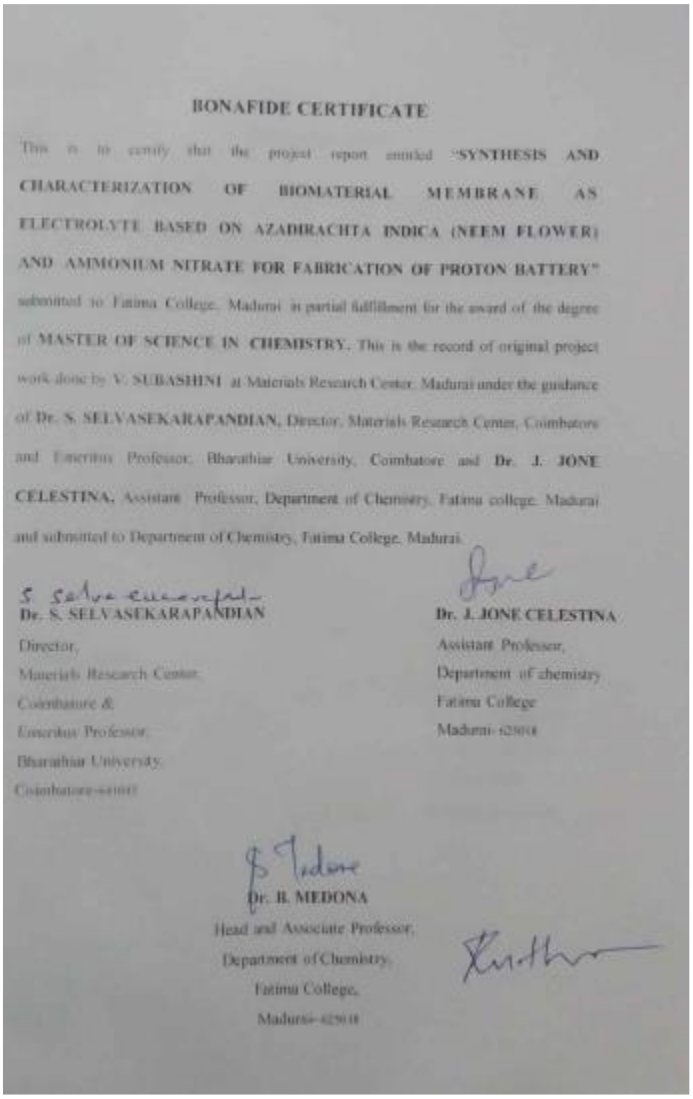
FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A++' GRADE BY NAAC)

MARY LAND, MADURAI - 625018

APRIL 2023



BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM NITRATE FOR FABRICATION OF PROTON BATTERY**" submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **V. SUBASHINI** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. J. JONE CELESTINA**, Assistant Professor, Department of Chemistry, Fatima college, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore &
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Dr. B. MEDONA
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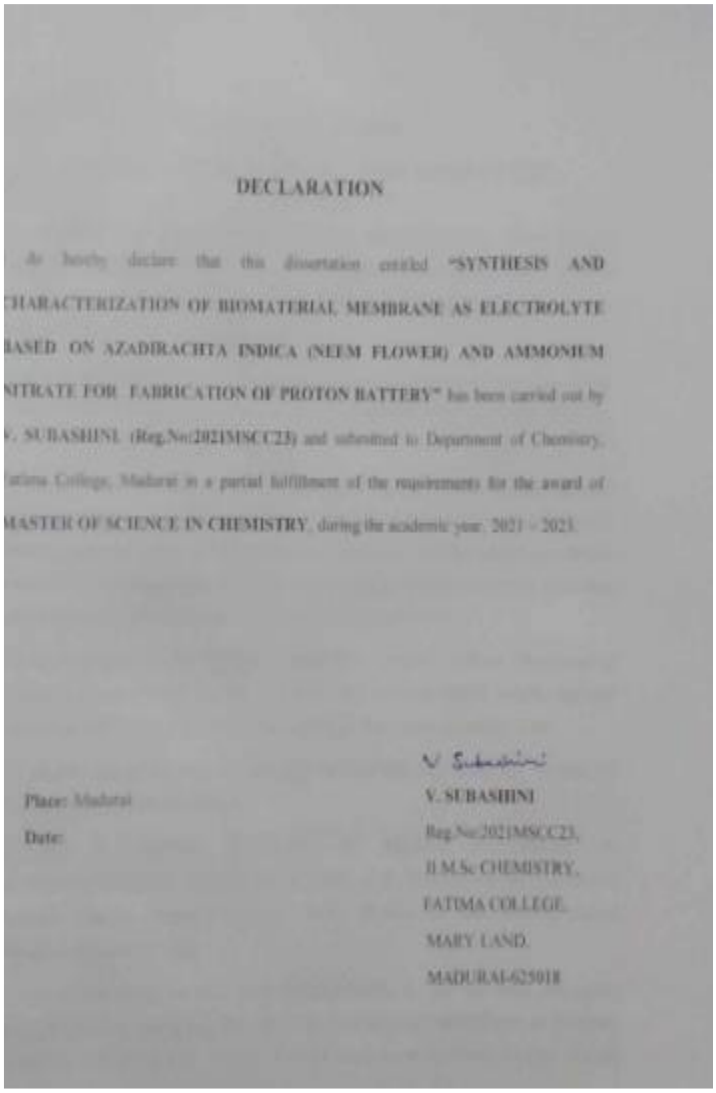

DECLARATION

I do hereby declare that this dissertation entitled "SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) AND AMMONIUM NITRATE FOR FABRICATION OF PROTON BATTERY" has been carried out by V. SUBASHINI (Reg.No:2021MSCC23) and submitted to Department of Chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of MASTER OF SCIENCE IN CHEMISTRY, during the academic year 2021 - 2023.

V. Subashini

Place: Madurai

Date:

V. SUBASHINI
Reg.No:2021MSCC23,
II M.Sc CHEMISTRY,
FATIMA COLLEGE,
MARY LAND,
MADURAI-625018

SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) USING ZINC CHLORIDE FOR THE FABRICATION OF ZINC-ION BATTERY

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

In partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. K.YUVARANI

(Register No: 2021MSCC24)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Center,

Coimbatore &

Emeritus Professor,

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Coimbatore-641045

INTERNAL GUIDE

Dr.M.PRIYADHARSANI

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DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A+' GRADE BY NAAC)

MARY LAND , MADURAI-625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) USING ZINC CHLORIDE FOR THE FABRICATION OF ZINC-ION BATTERY**" submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **K.YUVARANI** at Material Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. M.PRIYADHARSANI**, Assistant Professor, Department of Chemistry, Fatima College, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
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Emeritus Professor,
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Coimbatore-641046

Dr.M.PRIYADHARSANI
Assistant Professor,
Department of Chemistry,
Fatima College
Madurai-625018

Dr. B.MEDONA,
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018

DECLARATION

I do hereby declare that this dissertation entitled **"SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL MEMBRANE AS ELECTROLYTE AZADIRACHTA INDICA (NEEM FLOWER) USING ZINC CHLORIDE FOR THE FABRICATION OF ZINC-ION BATTERY"** has been carried out by **K.YUVARANI** (Reg.No:2021MSCC24) and submitted to Department of Chemistry ,Fatima college, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year , 2021-2023.

Place: Madurai
Date: 12/4/23

K. Yuvarani
K.YUVARANI
Reg.No:2021MSCC24
II M.Sc CHEMISTRY
FATIMA COLLEGE,
MARY LAND,
MADURAI-625018

ENHANCED PHOTOCATALYTIC DEGRADATION OF CIPROFLOXACIN USING Ag_2O DECORATED N-DOPED TiO_2 NANOCOMPOSITES

A Project report submitted for partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. C. Febia

(Register No: 2021MSCC25)

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re-Accredited with 'A++' Grade by NAAC (4th Cycle)

MARY LAND, MADURAI – 625 018

Under the Guidance of

Dr. J. ANNARAJ

Associate Professor and Head

Department of Materials Science

School of Chemistry

Madurai Kamaraj University

University with potential for excellence

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Madurai– 625021.

April - 2023

BONAFIDE CERTIFICATE

This is to certify that C. FEBIA, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled '**Enhance photocatalytic degradation of ciprofloxacin using Ag_2O decorated N-doped TiO_2 nanocomposites**'during the academic year 2021-2023 under the supervision of **Dr. J. ANNARAJ**, Associate professor and Head, Department of Materials Science, School of Chemistry, Madurai Kamaraj University, Madurai– 625021. This is to certify that no part of the work has been presented for any degree / diploma in any other form.

INTERNAL GUIDE

Dr. B. VINOSHA
Assistant Professor,
Department of Chemistry,
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EXTERNAL GUIDE

Dr. J. ANNARAJ
Associate Professor and Head,
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Madurai Kamaraj University,
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EXTERNAL EXAMINER

ENDORSEMENT

Dr. B. MEDONA
Head & Associate Professor,
Department of Chemistry,
Fatima College,
Madurai -625018

DECLARATION

I do here by declare that this dissertation entitled '**Enhance photocatalytic degradation of ciprofloxacin using Ag_2O decorated N-doped TiO_2 nanocomposites**' submitted to Fatima College in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**. is a record of original research work done by me. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

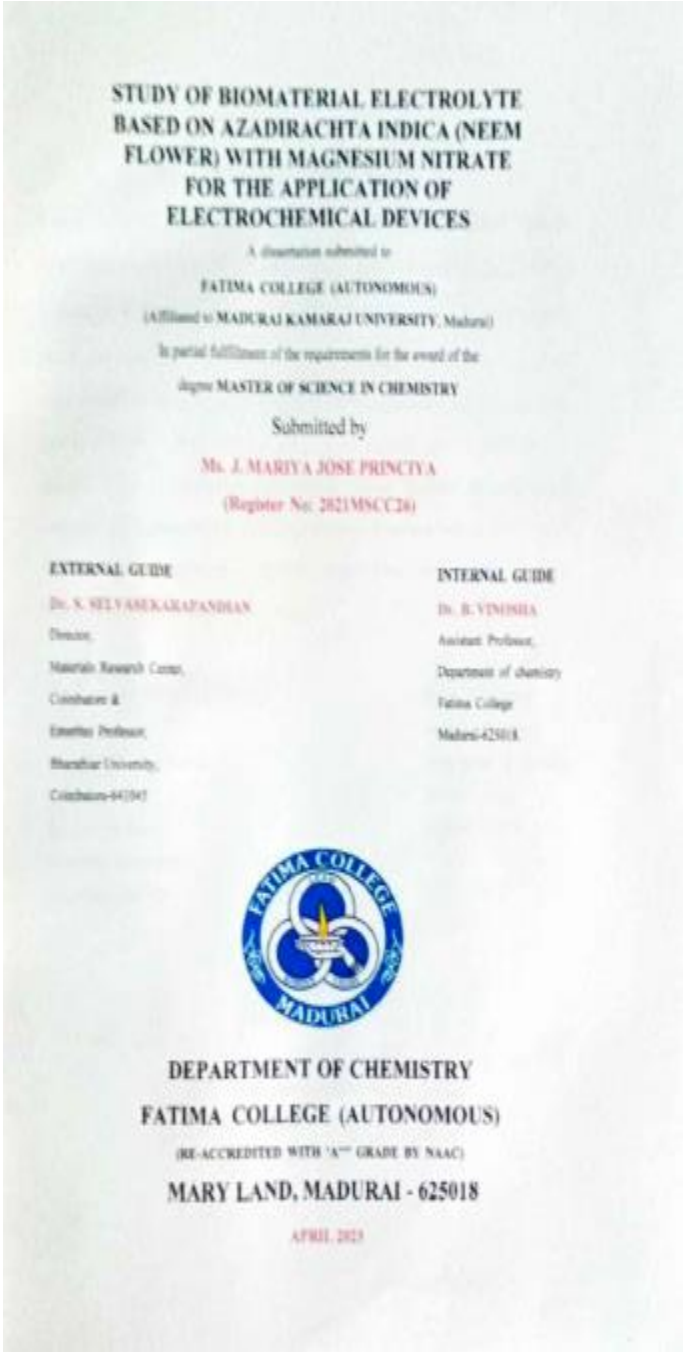
C.Febia

Signature of the Candidate

(C.Febia-2021MSCC25)

Place: Madurai

Date:



STUDY OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH MAGNESIUM NITRATE FOR THE APPLICATION OF ELECTROCHEMICAL DEVICES

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to MADURAI KAMARAJ UNIVERSITY, Madurai)

In partial fulfillment of the requirements for the award of the

degree MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. J. MARIYA JOSE PRINCIYA

(Register No: 2021MSCC26)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Centre,

Coimbatore &

Emeritus Professor,

Bharathiar University,

Coimbatore-641 047

INTERNAL GUIDE

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Assistant Professor,

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Fatima College

Madurai-625018.

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A++' GRADE BY NAAC)

MARY LAND, MADURAI - 625018

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**STUDY OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH MAGNESIUM NITRATE FOR THE APPLICATION OF ELECTROCHEMICAL DEVICES**" submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **J. MARIYA JOSE PRINCIYA** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. B. VINOSHA** Assistant Professor, Department of Chemistry, Fatima college, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore &
Emeritus Professor,
Bharathiar University,
Coimbatore-641045.

Dr. B. VINOSHA
Assistant Professor,
Department of chemistry
Fatima College
Madurai-625018.

Dr. B. MEDONA
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018.

DECLARATION

I do hereby declare that this dissertation entitled **"STUDY OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH MAGNESIUM NITRATE FOR THE APPLICATION OF ELECTROCHEMICAL DEVICES"** has been carried out by **J. MARIYA JOSE PRINCIYA (Reg.No:2021MSCC26)** and submitted to Department of Chemistry, Fatima College, Madurai in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, 2021 - 2023.

J. Mariya Jose Princiya

Place: Madurai

Date:

J. MARIYA JOSE PRINCIYA
Reg.No:2021MSCC26,
II M.Sc CHEMISTRY,
FATIMA COLLEGE,
MARY LAND,
MADURAI-18

ELECTROCHEMICAL INVESTIGATION OF HYDROTHERMALLY SYNTHESIZED NICKEL COBALT THIOSPINEL ($NiCo_2S_4$) NANOSPHERES

A Project report submitted for partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By
Ms. A. JOY JULIE ANSLIN
(Register No: 2021MSCC27)

DEPARTMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
Re-Accredited with 'A++' Grade by NAAC (4thCycle)
MARY LAND, MADURAI – 625 018
Under the Guidance of

Dr. M. JEYANTHINATH
Assistant professor
Department of Materials Science
School of Chemistry
Madurai Kamaraj University
University with potential for excellence
(Re-Accredited with A++ Grade by NAAC (CGPA: 3.54) in the fourth cycle)
Madurai– 625021.

April-2023

BONAFIDE CERTIFICATE

This is to certify that **Ms. A. JOY JULIE ANSLIN,** M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"ELECTROCHEMICAL INVESTIGATION OF HYDROTHERMALLY SYNTHESIZED NICKEL COBALT THIOSPINEL ($NiCo_2S_4$) NANOSPHERES "**, during the academic year 2021 - 2023 under the supervision of **Dr. M. JEYANTHINATH**, Assistant professor, Department of Materials Science, School of Chemistry, Madurai Kamaraj University, Madurai – 625021. This is to certify that no part of the work has been presented for any degree / diploma in any other form.

INTERNAL GUIDE
Dr. Sr. J. ARUL MARY
Assistant Professor
Department of Chemistry
Fatima College
Madurai- 625018

EXTERNAL GUIDE
Dr. M. JEYANTHINATH
Assistant Professor
Department of Material science
School of Chemistry
Madurai Kamaraj University
Madurai- 625021

ENDORSEMENT
Dr. B. MEDONA
Head & Associate Professor
Department of Chemistry
Fatima college
Madurai -625018

EXTERNAL EXAMINER

DECLARATION

I do here by declare that this dissertation entitled "**ELECTROCHEMICAL INVESTIGATION OF HYDROTHERMALLY SYNTHESIZED NICKEL COBALT THIOSPINEL ($NiCo_2S_4$) NANOSPHERES**", submitted to Fatima College in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original research work done by me. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

A Joy Julie Anslin

Place: Madurai
Date:

Signature
A. JOY JULIE ANSLIN
(2021MSCC27)

SYNTHESIS AND CHARACTERIZATION OF MANGANESE COBALT OXIDE $MnCo_2O_4$ BY AUTO COMBUSTION METHOD

A Project report submitted in

Partial fulfillment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By
Ms. S . SABITHRA
(Register No: 2021MSCC28)

DEPARTMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
Re-Accredited with 'A++' Grade by NAAC (4thCycle)
MARY LAND, MADURAI – 625 018

Under the Guidance of
Dr. M. JEYANTHINATH
Assistant professor
Department of Materials Science
School of Chemistry Madurai
Kamaraj University
University with potential for excellence
(Re-Accredited with A++ Grade by NAAC (CGPA: 3.54) in the fourth cycle)
Madurai– 625021.
April-2023

BONAFIED CERTIFICATE

This is to certify that **Ms. S.SABITHRA,** M. Sc., (Chemistry) student of Fatima college, Madurai has done the project work entitled **"SYNTHESIS AND CHARACTERIZATION OF MANGANESE COBALT OXIDE $MnCo_2O_4$ BY AUTO COMBUSTION METHOD".** During the academic year 2021 – 2023 under the supervision of **Dr. M. JEYANTHINATH,** Assistant professor, Department of material Science, School of Chemistry, Madurai Kamaraj University.

INTERNAL GUIDE
Dr. Sr. J. ARUL MARY
Assistant professor
Department of Chemistry
Fatima College Madurai

EXTERNAL GUIDE
Dr. M. JEYANTHINATH
Assistant professor
Department of Materials Science
School of chemistry
Madurai Kamaraj
University.

ENDORESEMENT
Dr. B. Medona
Head & Associate professor,
Department of chemistry
Fatima College
Madurai -18

EXTERNAL EXAMINER

DECLARATION

I do here by declare that this dissertation entitled **"SYNTHESIS AND CHARACTERIZATION OF MANGANESE COBALT OXIDE $MnCo_2O_4$ BY AUTO COMBUSTION METHOD"**. Submitted to Fatima College in partial fulfillment of requirement for the award of MASTER OF SCIENCE IN CHEMISTRY is a record of original research work done by me. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

Place : Madurai

Date :

Signature of the Candidate

S. SABITHRA

(2021MSCC28)

SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH SODIUM NITRITE

A dissertation submitted to

FATIMA COLLEGE (AUTONOMOUS)

(Affiliated to **MADURAI KAMARAJ UNIVERSITY**, Madurai)

To partial fulfillment of the requirements for the award of the degree

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

Ms. P.SHANMUGAPRIYA

(Register No: 2021MSCC29)

EXTERNAL GUIDE

Dr. S. SELVASEKARAPANDIAN

Director,

Materials Research Center,

Coimbatore &

Emeritus Professor,

Bharathiar University,

Coimbatore-641045.

INTERNAL GUIDE

Dr. B. MEDONA

Head & Associate Professor,

Department of Chemistry

Fatima College,

Madurai-625018.

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(RE-ACCREDITED WITH 'A^{++}' GRADE BY NAAC)

MARY LAND, MADURAI-625018.

APRIL 2023

BONAFIDE CERTIFICATE

This is to certify that the project report entitled "**SYNTHESIS AND CHARACTERIZATION BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH SODIUM NITRITE**" submitted to Fatima College, Madurai in partial fulfillment for the award of the degree of **MASTER OF SCIENCE IN CHEMISTRY**. This is the record of original project work done by **P. SHANMUGAPRIYA** at Materials Research Center, Madurai under the guidance of **Dr. S. SELVASEKARAPANDIAN**, Director, Materials Research Center, Coimbatore and Emeritus Professor, Bharathiar University, Coimbatore and **Dr. B. MEDONA** , Head and Associate professor, Department of chemistry, Fatima college, Madurai and submitted to Department of Chemistry, Fatima College, Madurai.

S. Selvasekarapandian

Dr. S. SELVASEKARAPANDIAN
Director,
Materials Research Center,
Coimbatore &
Emeritus Professor,
Bharathiar University,
Coimbatore-641045.

Dr. B. MEDONA
Head & Associate Professor,
Department of Chemistry
Fatima College
Madurai-625018.

Dr.B.MEDONA
Head and Associate Professor,
Department of Chemistry,
Fatima college,
Madurai-625018.

DECLARATION

I do hereby declare that this dissertation entitled "**SYNTHESIS AND CHARACTERIZATION OF BIOMATERIAL ELECTROLYTE BASED ON AZADIRACHTA INDICA (NEEM FLOWER) WITH SODIUM NITRITE**" has been carried out by **P. SHANMUGAPRIYA** (Reg.No:2021MSCC29) and submitted to Department of Chemistry, Fatima College, Madurai-18 in a partial fulfillment of the requirements for the award of **MASTER OF SCIENCE IN CHEMISTRY**, during the academic year, **2022 – 2023.**

P. Shanmugapriya

Place: Madurai

Date:

P. SHANMUGAPRIYA

Reg.No:2021MSCC29

II M.Sc CHEMISTRY,

FATIMA COLLEGE,

MARY LAND,

MADURAI-625018.

Facile Synthesis and Characterization of Organogel using 4,6-*O*-Ethylidene-α-D-glucopyranose and p-bromoaniline

A PROJECT REPORT
Submitted by

K. VISWATHIKA
(2021MSCC30)

in partial fulfillment for the award of the degree of

MASTER OF SCIENCE IN CHEMISTRY

DEPARTMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited with A++ Grade by NAAC (CGPA: 3.61) in the fourth cycle)
MARYLAND MADURAI– 625018.

Under the Guidance of
Dr. K. KARTHIK KUMAR
Assistant Professor

Since 1881
PG & Research Department of Chemistry
The American College
Madurai-625002
APRIL - 2023

CERTIFICATE

This is to certify that K. **VISWATHIKA**, MSc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"Facile Synthesis and Characterization of Organogel using 4,6-*O*-Ethylidene-α-D-glucopyranose and p-bromoaniline"** during the academic year 2022-2023 under the supervision of Dr. K Karthik Kumar, Assistant Professor, PG & Research Department of chemistry, The American College, Madurai-625002. This project or any part of this work has not been presented for any degree/diploma in any other form.

Internal guide
Dr. K. R SUBIMOL
Assistant Professor,
Department of Chemistry,
Fatima College,
Madurai-625018

External guide
Dr. K. KARTHIK KUMAR
Assistant Professor,
PG & Research Department of Chemistry,
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Dr. B. MEDONA
Associate Professor,
Department of Chemistry,
Fatima College,
Madurai-625018

OMCRL

(Formulation & Drug Consultancy Services)

E05-Viprossa,
Thuvariman,
Madurai – 625019,
Tamilnadu

Date: 01.04.2023

CERTIFICATE

This is to certify that **Ms. K. Viswathika** [Reg.No: 2021MSCC30], II. M.Sc., student, Department of Chemistry(PG), **Fatima college, Madurai-18** carried out her M.Sc., chemistry project work on **"Facile Synthesis and Characterization of Organogel using 4,6-*O*-Ethylidene-α-D-glucopyranose and p-bromoaniline"** in the **Organic and Material Chemistry Research Laboratory, The American College, Madurai-02** from **13.12.2022 - 01.04.2023,** for a period of three months, under the guidance of **Dr. K. Karthik Kumar,** Assistant professor, PG & Research Department of Chemistry, The American College, Madurai-02.

Dr. K. Karthik Kumar

Dr. K. KARTHIK KUMAR
PG & Research Department of Chemistry
Madurai - 625002.

DECLARATION

I do hereby declare that this dissertation entitled "**Facile Synthesis and Characterization of Organogel using 4,6-*O*-Ethylidene-α-D-glucopyranose and p-bromoaniline**" submitted to Fatima college in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is a record of original research work done by me at The American College Madurai - 625002. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

K. Viswathika

Place: Madurai

Date:

K.VISWATHIKA

(REG.NO. 2021MSCC30)

Fluorescent Schiff base as a selective sensor for Cu^{2+} ion with biological activity

A Project report submitted to Department of Chemistry, FATIMA COLLEGE (Autonomous), In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

P. S. Sneha

(Reg. No: 2021MSCC31)

Under the Guidance of

Dr. V. Arul Deepa

Assistant professor

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (Autonomous)

(Re-Accredited with "A++" Grade by NAAC)

Madurai- 625018.

April – 2023

CERTIFICATE

This is to declare that the dissertation entitled **"Fluorescent Schiff base as a selective sensor for Cu2+ ion with biological activity"** Submitted to the FATIMA COLLEGE, Madurai, is partial fulfillment of the requirements of the award of the degree of Master of Science in Chemistry, is a record of research work done by P. S. Sneha during the period of her study in the Department of Chemistry, Fatima College, Madurai.

Internal Guide
Dr. V. Arul Deepa
Assistant Professor
Department of Chemistry
Fatima College
Madurai.

Head of The Department
Dr. B. Medona
Associate Professor & Head
Department of Chemistry
Fatima College
Madurai.

DECLARATION

I hereby declare that this project work entitled "**Fluorescent Schiff base as a selective sensor for Cu^{2+} ion with biological activity**" has been originally carried out by me in the PG Chemistry laboratory during 2022-2023 under the guidance of Dr. V. Arul Deepa, Assistant Professor, Department of Chemistry, Fatima college, Madurai and this work or any part of this has not been submitted elsewhere for any other degree.

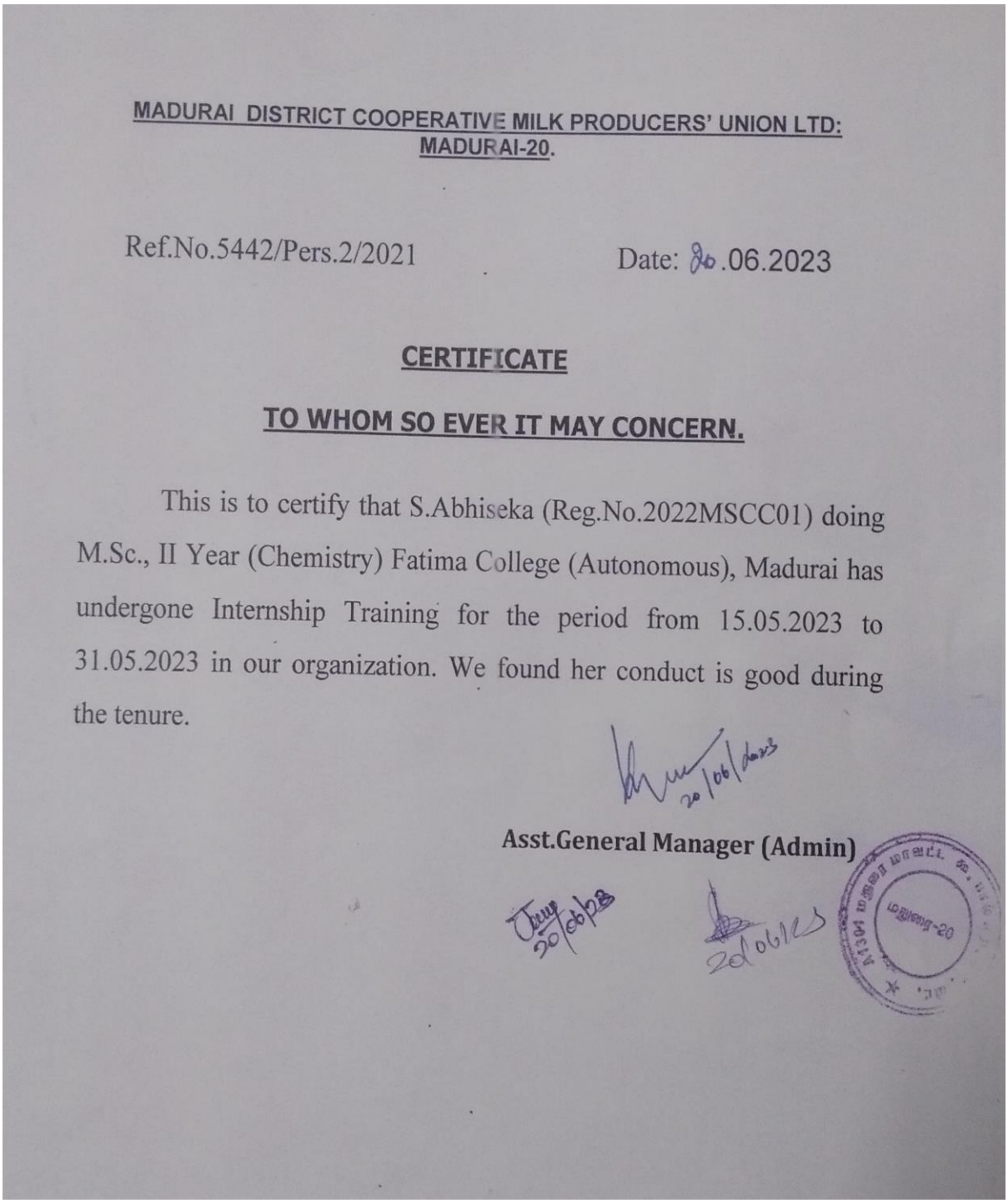
P. S. Sneha

(P. S. SNEHA)

(Reg.No.2021MSCC31)

Place: Madurai

Date: 10.04.2023



MADURAI DISTRICT COOPERATIVE MILK PRODUCERS' UNION LTD:
MADURAI-20.

Ref.No.5442/Pers.2/2021 Date: 20.06.2023

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN.

This is to certify that S.Abhiseka (Reg.No.2022MSCC01) doing M.Sc., II Year (Chemistry) Fatima College (Autonomous), Madurai has undergone Internship Training for the period from 15.05.2023 to 31.05.2023 in our organization. We found her conduct is good during the tenure.

20/06/2023

Asst.General Manager (Admin)

20/06/23 20/06/23