STUDIES ON NOVEL TRIAZINE BASED LIGANDS AND ITS METAL COMPLEXES

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. R. ABITHA

(Register No: 2020MSCC01)

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FATIMA COLLEGE (AUTONOMOUS)

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MADURAI-625 018

Under the Guidance of

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This is to certify that **Ms. R. ABITHA, M.Sc., (Chemistry)** student of Fatima College, Madurai has done the project work entitled **"STUDIES ON NOVEL TRIAZINE BASED LIGANDS AND ITS METAL COMPLEXES"** during the academic year 2021-2022 under the supervision of **Dr. P. THARMARAJ,** Associate Professor, Department of Chemistry, Thiagarajar College, Madurai– 625009. This is to certify that no part of the work has been presented for any degree / diploma in any other form.

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06.06.2022
EXTERNAL EXAMINER

DECLARATION

I do here by declare that this dissertation entitled "STUDIES ON NOVEL TRIAZINE BASED LIGANDS AND ITS METAL COMPLEXES" 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: 10.05.2022

Signature of the candidate

R.ABITHA (2020MSCC01)

SYNTHESIS AND CHARACTERIZATION OF NEODYMIUM OXIDE ANCHORED GRAPHENE NANOSHEETS USING ELECTROCHEMICAL DETECTION OF IMIDAZOLE DRUG

A Project report submitted for

Partial fulfillment of the Requirement for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

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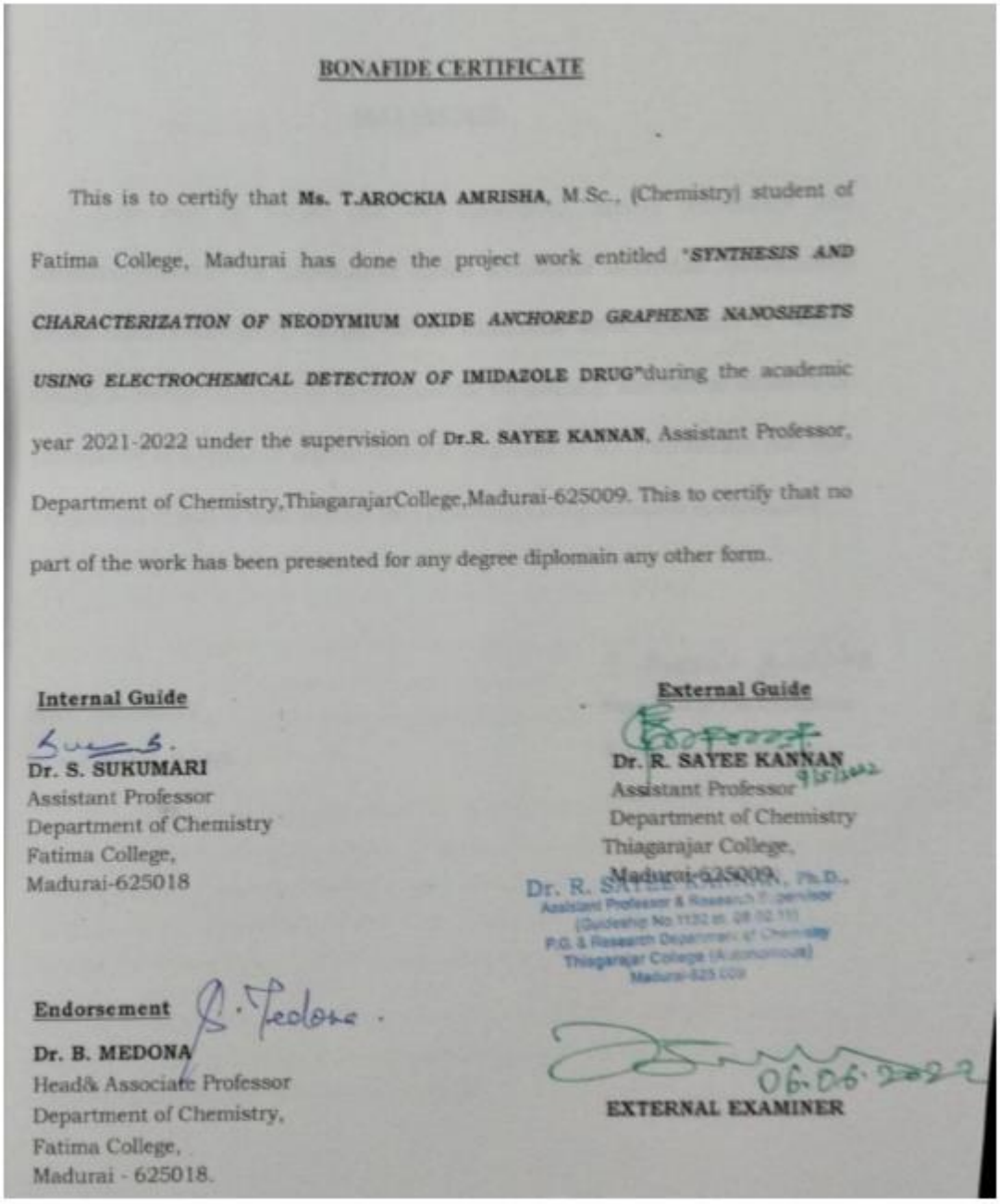

BONAFIDE CERTIFICATE

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DECLARATION

I do here by declare that this dissertation entitled "***SYNTHESIS AND CHARACTERIZATION OF NEODYMIUM OXIDE ANCHORED GRAPHENE NANOSHEETS USING ELECTROCHEMICAL DETECTION OF IMIDAZOLE DRUG***"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 alsodeclare that this dissertation or part of work has not been published earlier elsewhere in anymanner.

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SYNTHESIS AND CHARACTERIZATION OF γ- LACTAM VIA CYCLIZATION

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

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I do here by declare that this dissertation entitled **"Synthesis and characterization of γ-Lactam via cyclization"** submitted to Fatima College in partial fulfilment 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. Bhuvaneshwari

Place:Madurai -18.

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Signature of the Candidate

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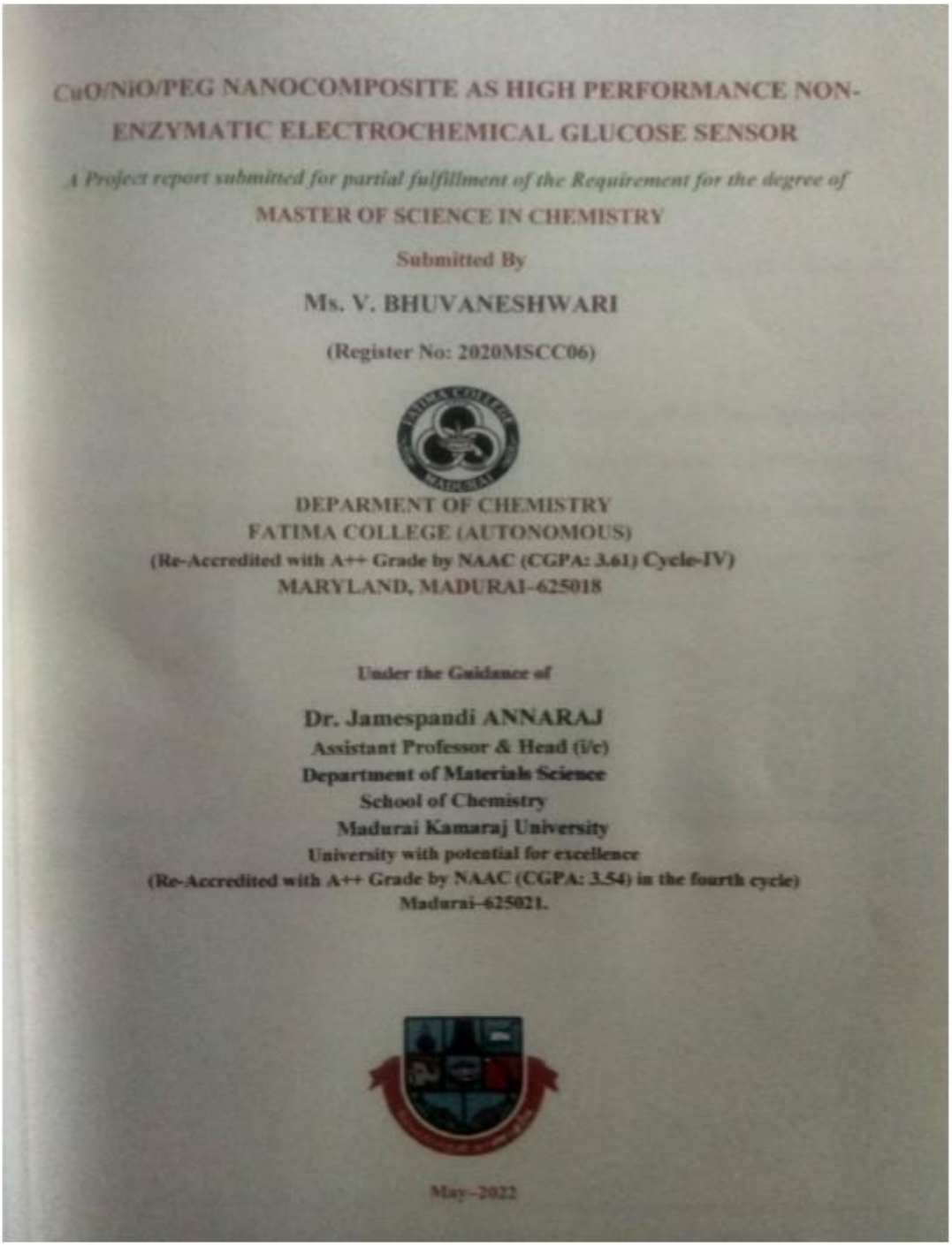

CuO/NiO/PEG NANOCOMPOSITE AS HIGH PERFORMANCE NON-ENZYMATIC ELECTROCHEMICAL GLUCOSE SENSOR

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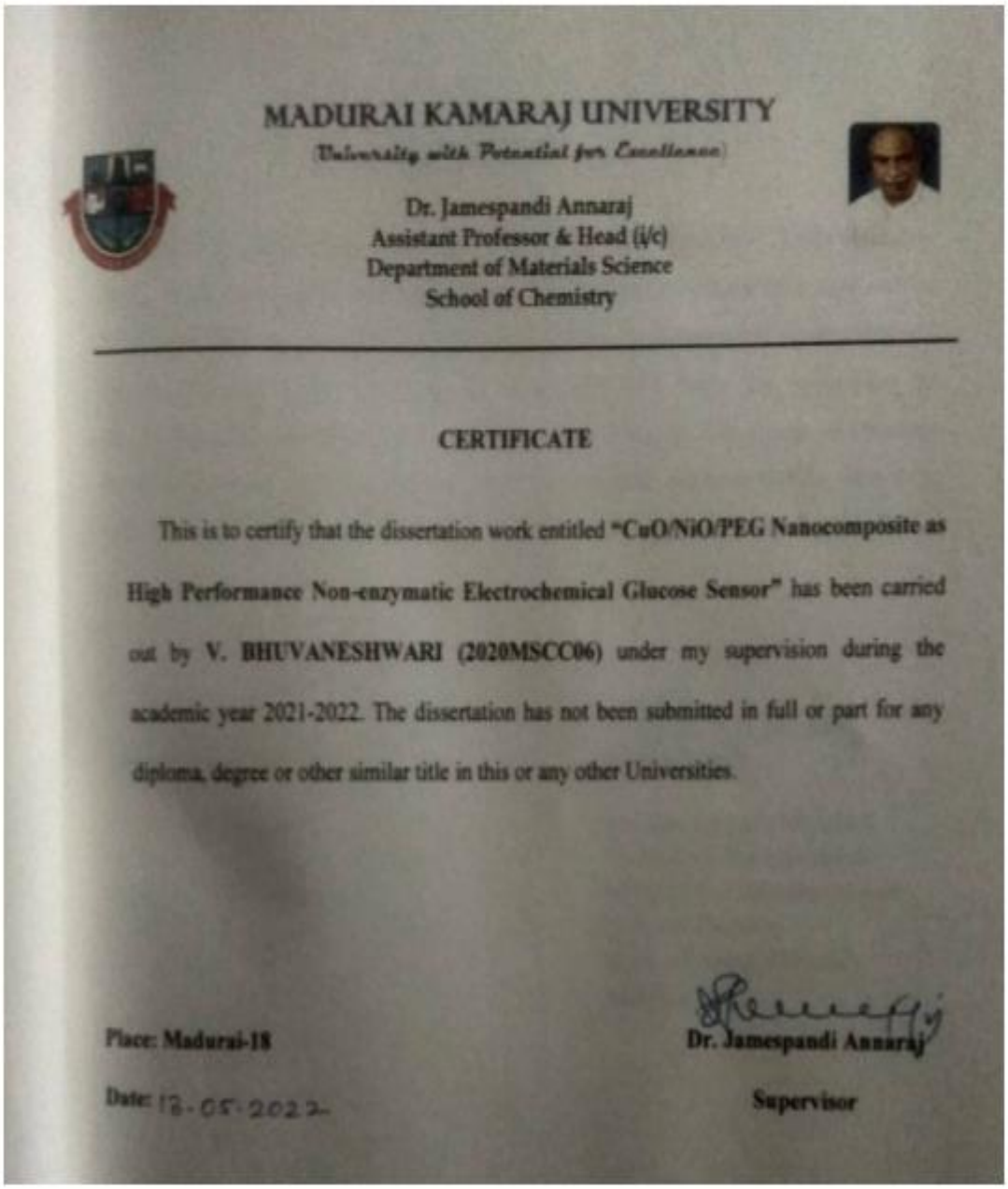

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Dr. Jamespandi Annaraj

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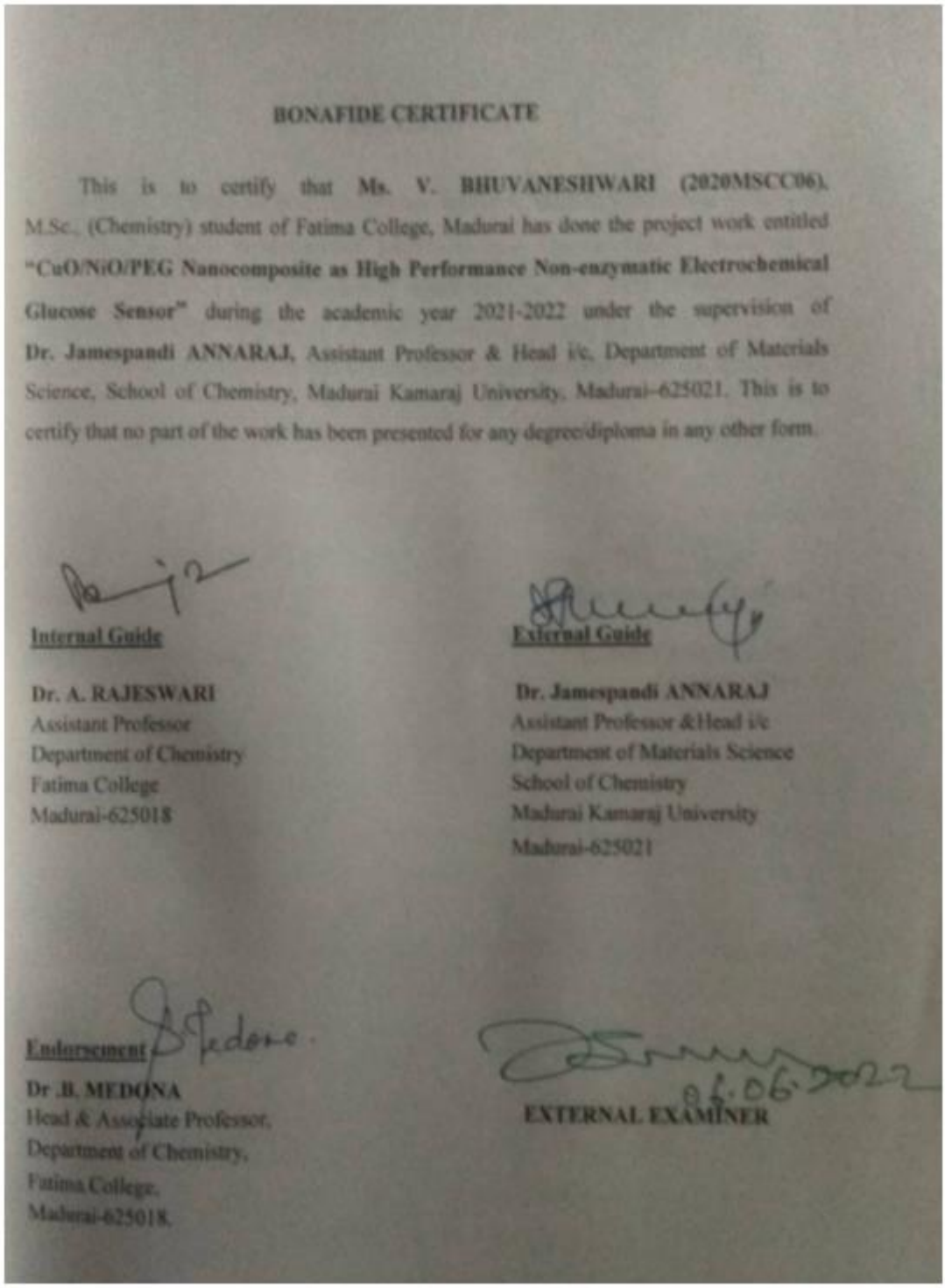

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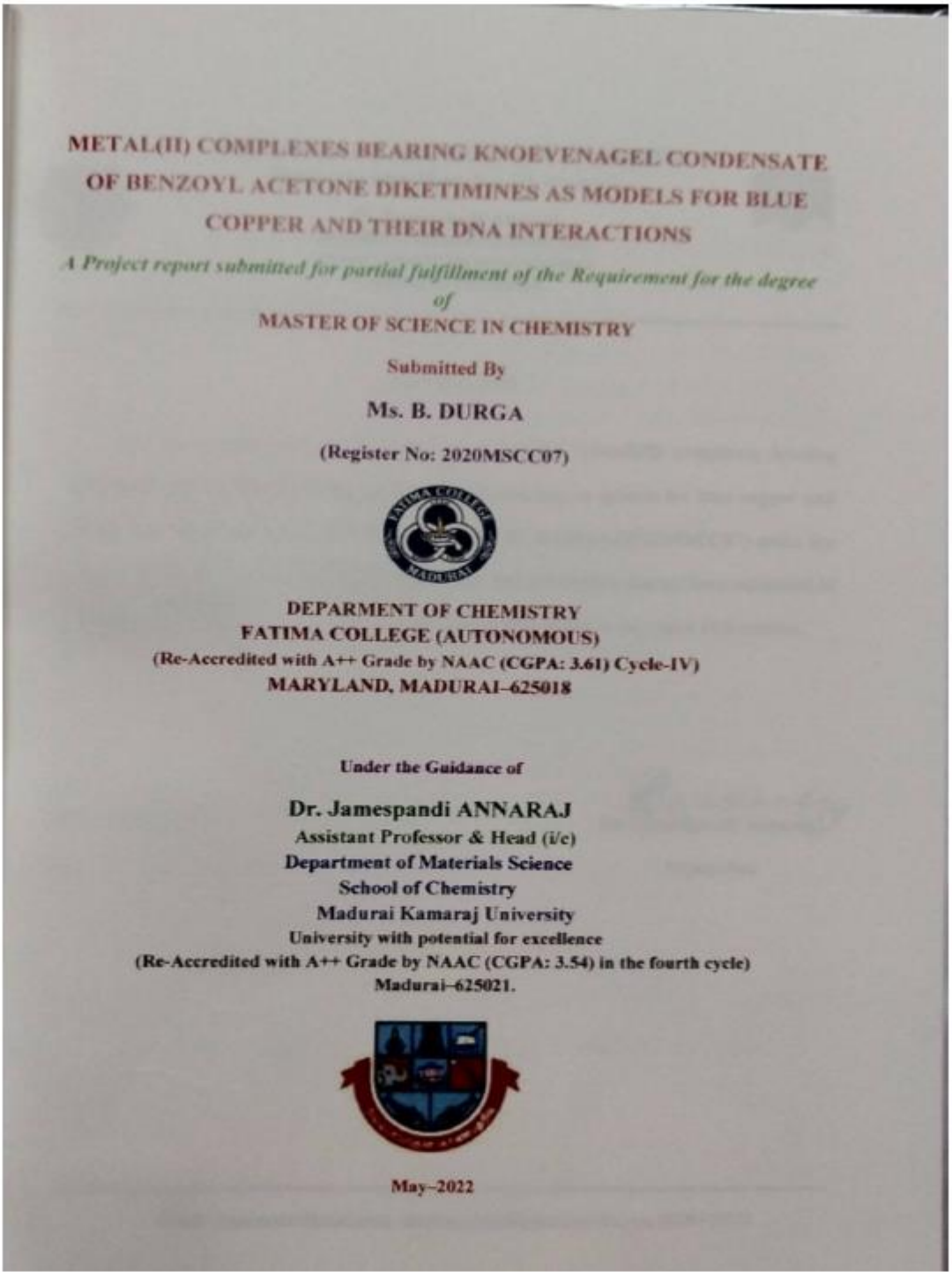

METAL(II) COMPLEXES BEARING KNOEVENAGEL CONDENSATE OF BENZOYL ACETONE DIKETIMINES AS MODELS FOR BLUE COPPER AND THEIR DNA INTERACTIONS

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

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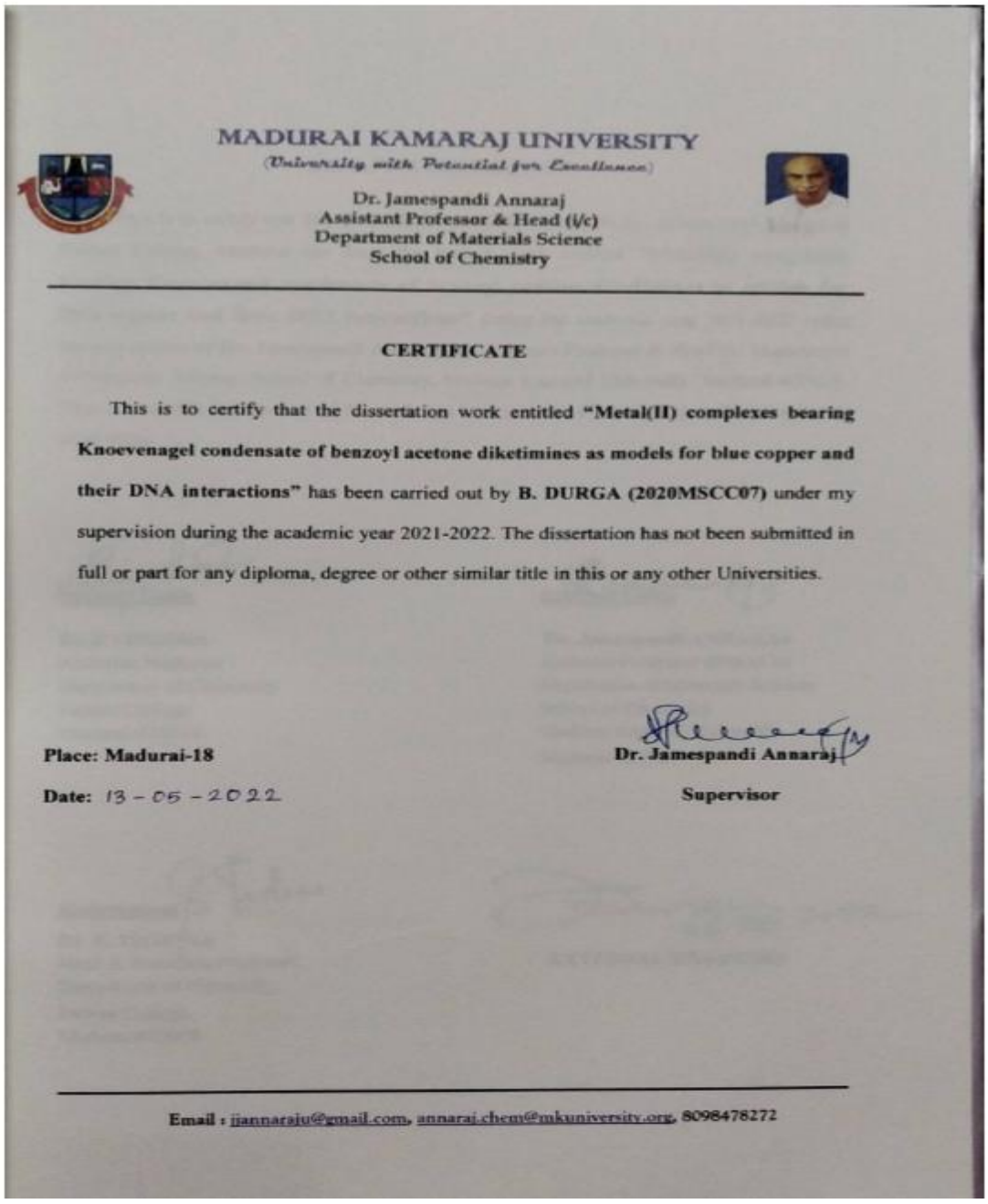

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Date: 13-05-2022

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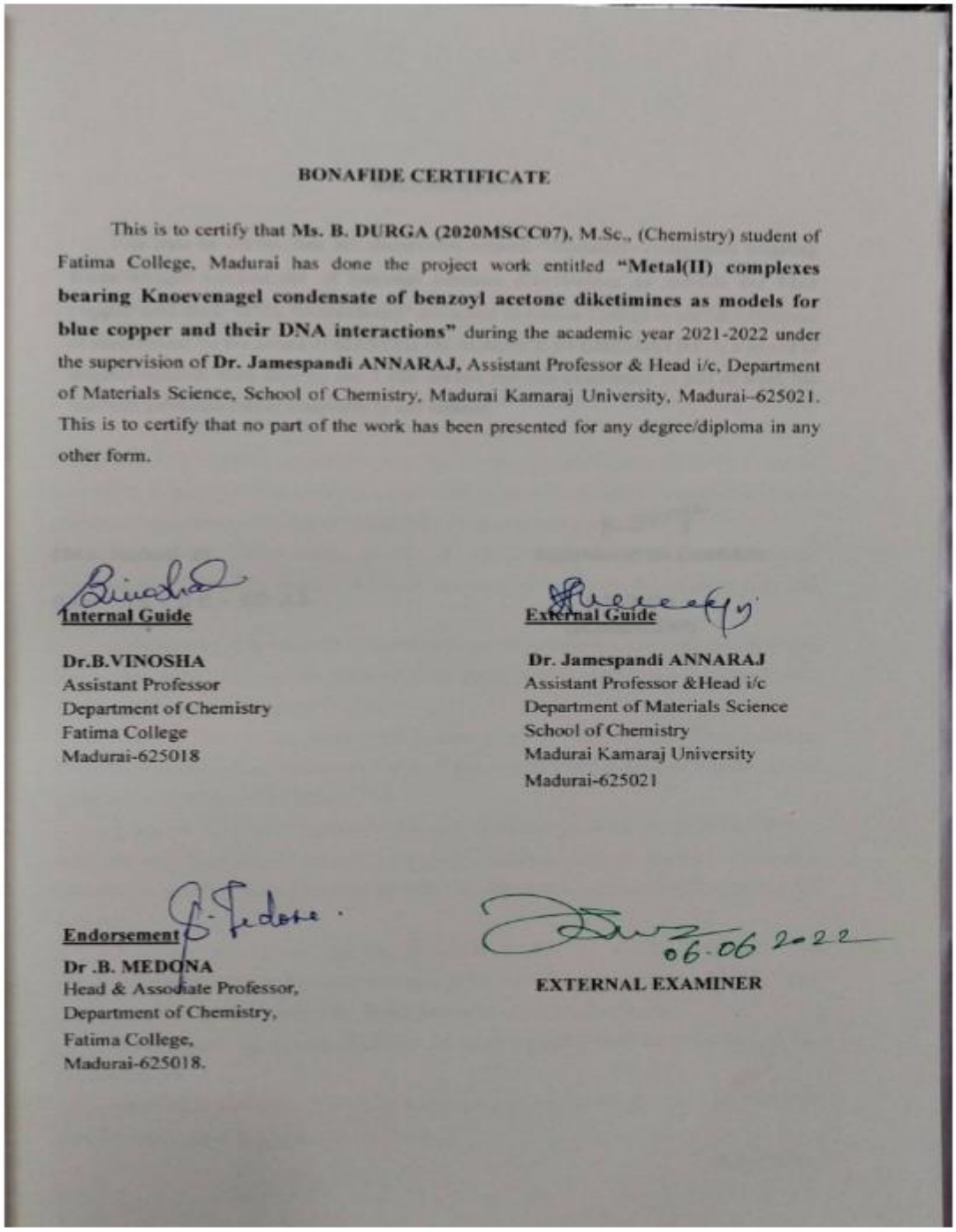

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This is to certify that **Ms. B. DURGA (2020MSCC07)**, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"Metal(II) complexes bearing Knoevenagel condensate of benzoyl acetone diketimines as models for blue copper and their DNA interactions"** during the academic year 2021-2022 under the supervision of **Dr. Jamespandi ANNARAJ,** Assistant Professor & Head i/c, 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.

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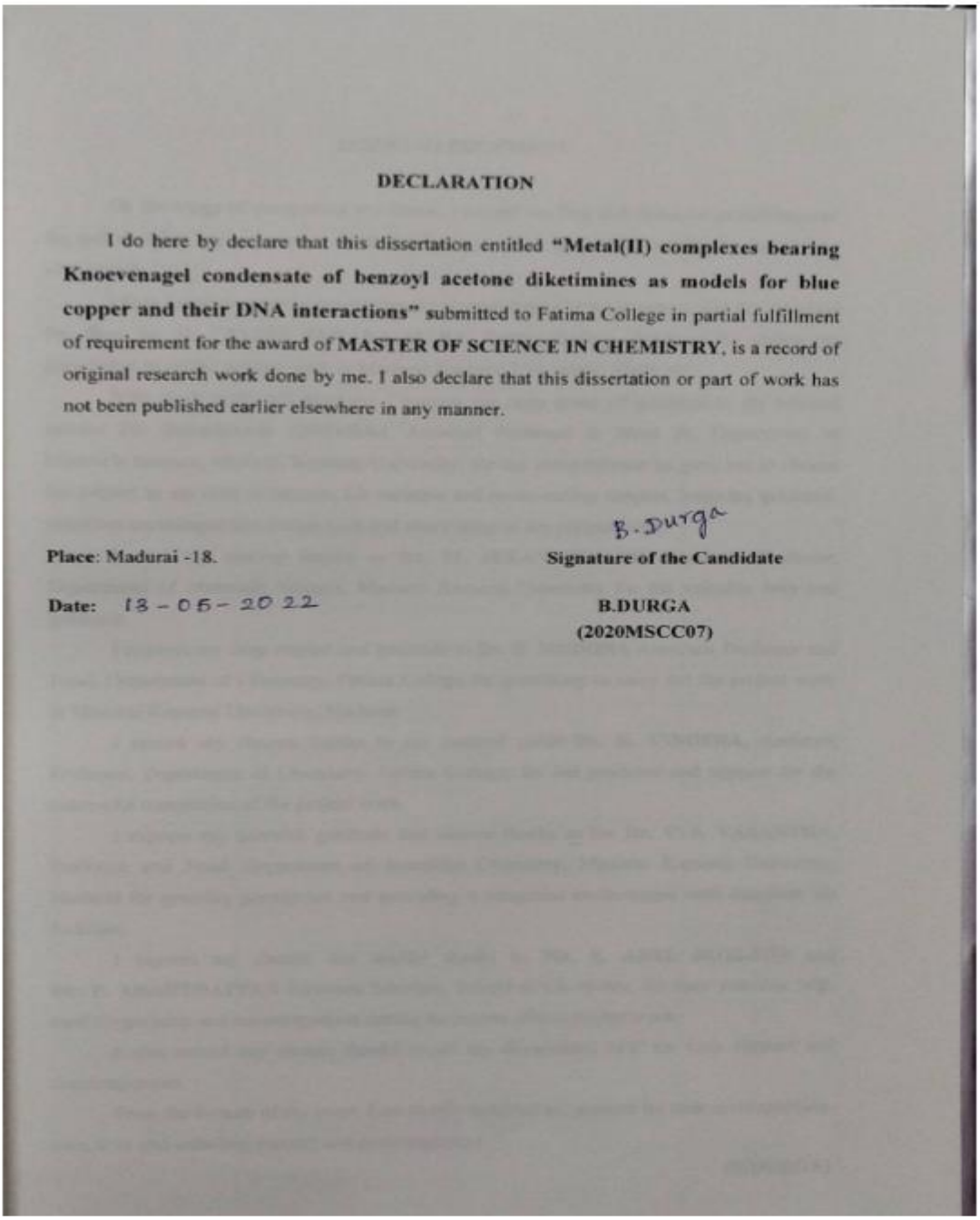


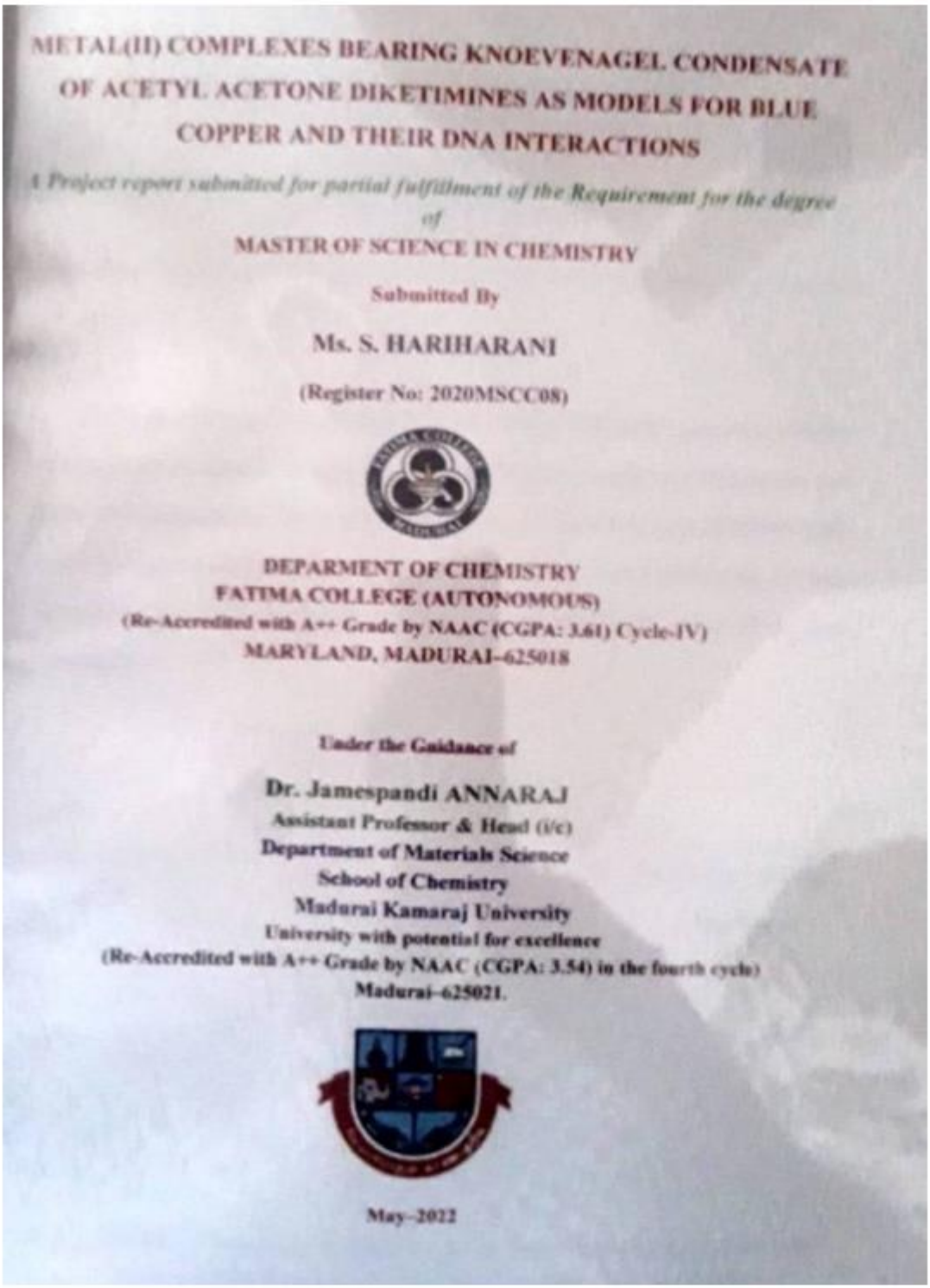
DECLARATION

I do here by declare that this dissertation entitled **"Metal(II) complexes bearing Knoevenagel condensate of benzoyl acetone diketimines as models for blue copper and their DNA interactions"** 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.

B. Durga

Place: Madurai -18. **Signature of the Candidate**

Date: 13-05-2022 **B.DURGA**
(2020MSCC07)



METAL(II) COMPLEXES BEARING KNOEVENAGEL CONDENSATE OF ACETYL ACETONE DIKETIMINES AS MODELS FOR BLUE COPPER AND THEIR DNA INTERACTIONS

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

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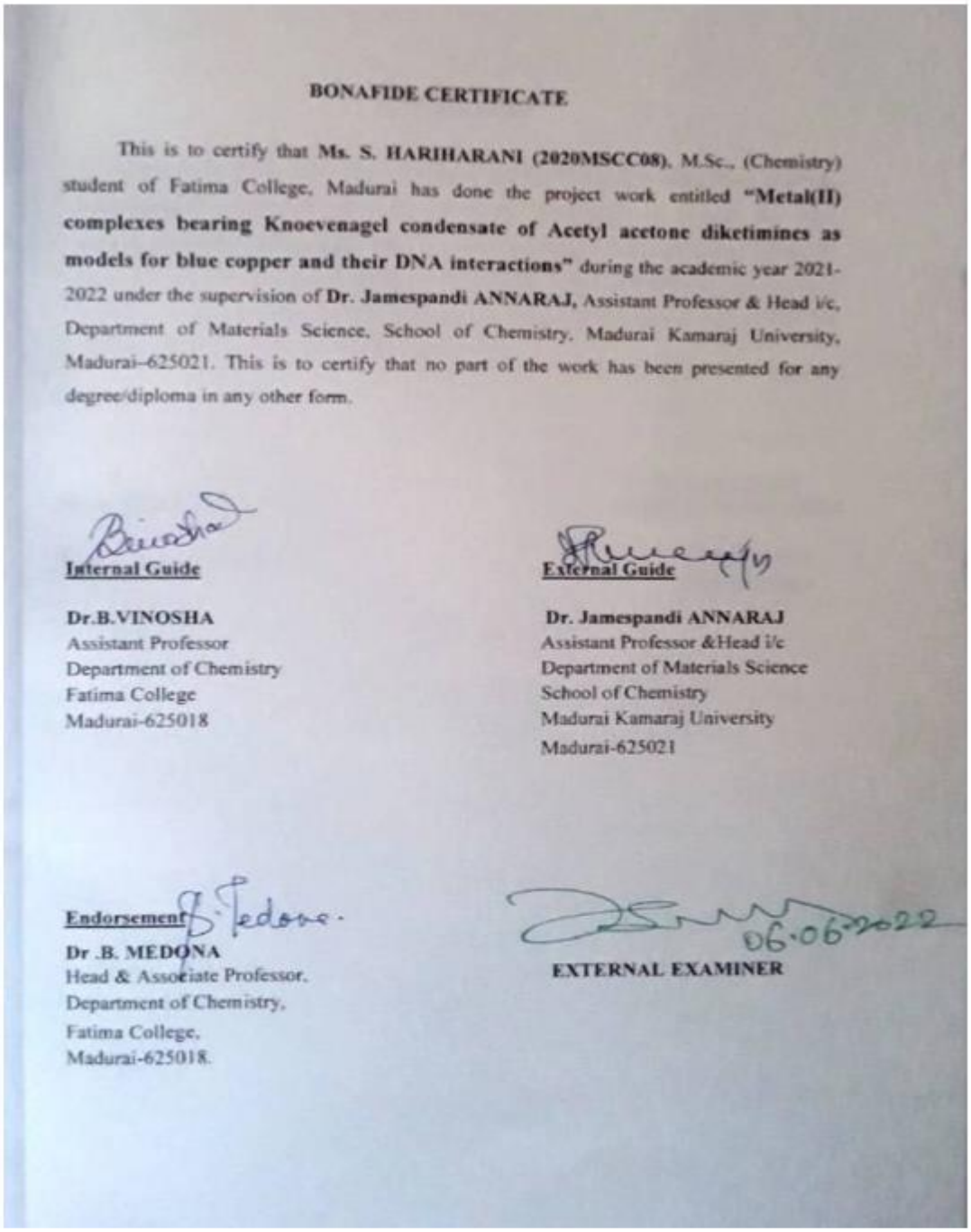

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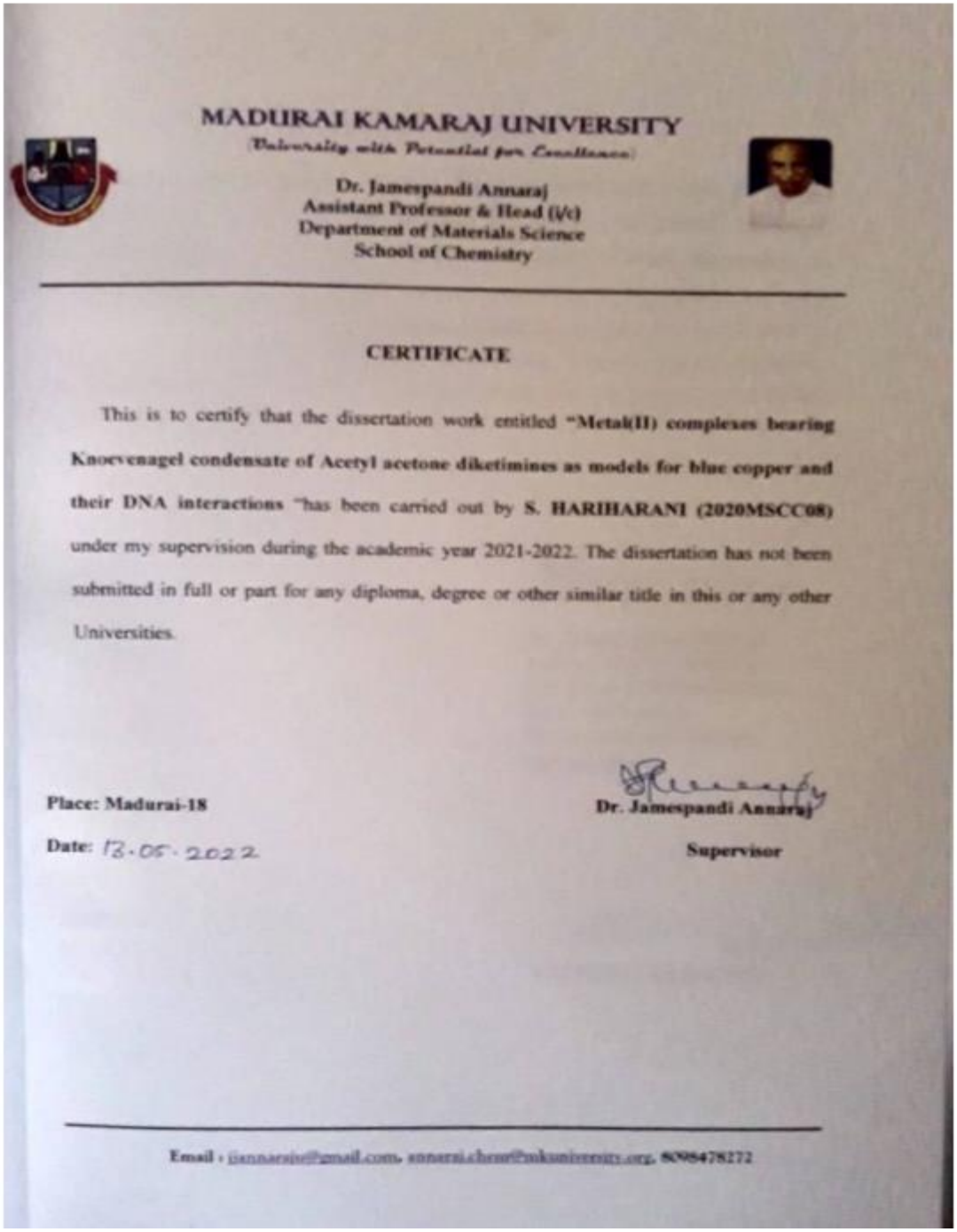

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Place: Madurai-18

Date: 13.05.2022

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INVESTIGATION OF SPINEL $MnCo_2O_4$ ON f-CB FOR ELECTROCHEMICAL PERFORMANCE OF HYDROGEN EVOLUTION REACTION

A project report submitted for partial fulfillment of the Requirement for the award of degree of

Master of Science in Chemistry

Submitted by

Ms. G. JAYA DHARSHNI

(Reg. No: 2020MSCC10)

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06.06.2022

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DECLARATION

I do here by declare that this dissertation entitled **"INVESTIGATIO OF SPINEL $MnCo_2O_4$ ON *f*-CB FOR ELECTROCHEMICAL PERFORMANCE OF HYDROGEN EVOLUTION REACTION"** is 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 during the academic year 2021-2022 under the supervision of **Dr. A. ELANGOVAN,** Associate professor, PG & Research Department of Chemistry, Thiagarajar College, Madurai-625009. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

Place: Madurai
Date: 09.05.2022

G. Jaya Dharshni
Signature of the Candidate
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ENHANCED ELECTROCHEMICAL DETECTION OF N-HYDROXY SUCCINIMIDE ON $Zr_2Ce_2O_7$ ANCHORED ON REDUCED GRAPHENE OXIDE

A project report submitted for partial fulfillment of the Requirement for the award of degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted by

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(Reg. No: 2020MSCC11)

Under the Internal Guidance of

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Place: Madurai

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Date: 09-05-2022

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SYNTHESIS, CHARACTERIZTION AND INVESTIGATION OF ANTIBACTERIAL ACTIVITY OF Ag-ZnO NANOCOMPOSITE

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

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Submitted by

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This is to certify that **Ms. J. JULIET**, M.Sc., (Chemistry) student of Fatima College, Madurai ha done the project work entitled " **SYNTHESIS, CHARACTERISATION ANI INVESTIGATION OF ANTI BACTERIAL ACTIVITY OF Ag-ZnO NANC COMPOSITE**" during the academic year 2021-2022 under the supervision of **Dr. - JEYASUNDARI,** Assistant professor, PG & Research Department of chemistry, N.M.S.S VELLAICHAMY NADAR COLLEGE, Nagamalai, Madurai – 625 019. This is to certify that n part of the work has been presented for any degree / diploma in any other form.

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EXTERNAL EXAMINER

DECLARATION

I do here by declare that this dissertation entitled **"synthesis, characterization and investigation of anti-bacterial activity of Ag-ZnO nano composite"** submitted to Fatima College in partial fulfilment 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.

J. Juliet

Place: Madurai - 18.

Date: 09.05.2022

J. JULIET

(2020MSCC12)

Synergistic action of Ag-CuO Nanocomposite – Synthesis, Characterization and antibacterial activity

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. R. KARTHIGA

(Register No: 2020MSCC13)

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.

MAY -2022.

BONAFIDE CERTIFICATE

This is to certify that the project entitled **"Synergistic action of Ag-CuO Nanocomposite – Synthesis, Characterization and antibacterial activity"** 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. R. Karthiga (2020MSCC13) 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 2021-2022.

INTERNAL GUIDE

Dr.Sr.J. Arul Mary, M.Sc., M.Phil., Ph.D.,

Assistant professor,

Department of Chemistry,

Fatima College,

Madurai - 625 018.

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 - 625 019.

HEAD OF THE DEPARTMENT

Dr. B. Medona, M.Sc., Ph.D.,

Associate professor,

Department of Chemistry,

Fatima College,

Madurai - 625 018.

06.06.2022

EXTERNAL EXAMINER

DECLARATION

I hereby declare that the work entitled "**Synergistic action of Ag-CuO Nanocomposite – Synthesis, Characterization and antibacterial activity**" presented in this report has been carried out by me under the supervision of **Dr.Sr.J. Arul Mary,M.Sc.,M.Phil.,Ph.D.,** Assistant Professor, Department of Chemistry, Fatima College (autonomous), Madurai. The work presented here is in original and not from the award of any other degree /Diploma /fellowship or other similar title to any candidate of any university.

Karthiga.R

Place: Madurai

KARTHIGA .R

Date: 09.05.2022

(2020MSCC13)

Colorimetric Biosensor for Glucose Detection using 3-(anthracen-9-yl)-N-(2-oxo-1,2-dihydropyrimidin-4-yl)acrylamide [ANDA]

Dissertation submitted to Madurai Kamaraj University
for the partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN CHEMISRY

By

P. Mercy Magdalene
(Reg. No: 2020MSCC15)

DEPARTMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
[Re-Accredited with A++ Grade by NAAC (CGPA: 3.61) in the fourth cycle]
MARYLAND, MADURAI – 625 018.

Under the Supervision of

Prof. V.S.VASANTHA
Head- Dept. of Natural Products Chemistry

Department of Natural Products Chemistry
School of Chemistry
Madurai Kamaraj University
Madurai-625 021.

May 2022

Madurai Kamaraj University

(University with potential for excellence)

Department of Natural Products Chemistry

School of Chemistry

Madurai-625 021.

Dr. V. S. Vasantha
Professor& Head
E mail: *vasantham999@yahoo.co.in*

Mobile: **9442357392**
Phone: + 91 - 452 - 245 8471, Ex: 337
Fax: + 91 - 452 - 245 8449

CERTIFICATE

This is to certify that the dissertation work entitled "**Colorimetric Biosensor for Glucose Detection using 3-(anthracen-9-yl)-N-(2-oxo-1,2-dihydropyrimidin-4-yl)acrylamide [ANDA]**" has been carried out by **P. Mercy Magdalene** under my supervision during the academic year 2022. The dissertation has not been submitted in full or part for any diploma, degree or other similar title in this or any other University.

Place: Madurai
Date: 13.05.2022

Dr. V. S. Vasantha
Supervisor

The Head
Department of Natural Products Chemistry

Dr. V.S. VASANTHA
Head & Professor
Department of Natural Products Chemistry
School of Chemistry
Madurai Kamaraj University
Madurai - 625 021

The Chairperson
School of Chemistry

CHAIRPERSON
School of Chemistry
Madurai Kamaraj University
Madurai - 625 021

BONAFIDE CERTIFICATE

This is to certify that Ms. P. Mercy Magdalene, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled "Colorimetric Biosensor for Glucose Detection using 3-(anthracen-9-yl)-N-(2-oxo-1,2-dihydropyrimidin-4-yl)acrylamide [ANDA]" during the academic year 2021-2022 under the supervision of Prof. V. S. VASANTHA, Head- Dept. of Natural Products Chemistry, 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

Mrs. R. M. NAGALAKSHMI, M.Sc.,M.Phil.,B.Ed.
Assistant Professor,
Department of Chemistry,
Fatima College,
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Dr. V.S. VASANTHA,
Professor& Head
Department of Natural Products Chemistry,
School of Chemistry,
Madurai Kamaraj University,
Madurai- 625 021.

06.06.2022

HEAD OF THE DEPARTMENT

Dr.B.MEDONA,
Head and Associate Professor,
Department of Chemistry,
Fatima College,
Madurai- 625 018.

EXTERNAL EXAMINER

DECLARATION

I hereby declare that the dissertation entitled "**Colorimetric Biosensor for Glucose etection using 3-(anthracen-9-yl)-N-(2-oxo-1,2-dihydropyrimidin-4-yl)acrylamide ANDA]**"submitted to Fatima College in partial fulfillment of the requirements for the ward of **MASTER OF SCIENCE IN CHEMISTRY**, is the result of study originally carried out by ie independently under the guidance of **Prof. V. S. VASANTHA** Department of Natural roducts Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai-625 021.This ork has not been submitted earlier in full or part elsewhere in any manner.

lace: Madurai

ate: 13.05.2022

P. Mercy Magdalene..

P.MERCY MAGDALENE

(2020MSCC15)

Greener Approach for Synthesis of 4-(((2mercaptophenyl) imino) methyl) benzaldehyde (MMB) for the Naked Eye Sensing of Hg^{2+}Ions

Dissertation submitted to Madurai Kamaraj University
for partial fulfilment of the requirements
for the degree of

MASTER OF SCIENCE IN CHEMISTRY

By

S.PAVITHRA
(Reg. No: 2020MSCC16)

DEPARTMENT OF CHEMISTRY
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[Re-Accredited with A++ Grade by NAAC (CGPA: 3.61) in the fourth cycle]
MARYLAND, MADURAI – 625 018.

Under the Supervision of

Prof. V.S.VASANTHA
Registrar (i/c)
Head - Dept. of Natural Products Chemistry

School of Chemistry
Madurai Kamaraj University
Madurai - 625 021.

May 2022

Madurai Kamaraj University

(University with potential for excellence)

Department of Natural Products Chemistry

School of Chemistry

Madurai-625 021.

Dr. V. S. Vasantha
Registrar (i/c)
Professor& Head
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Mobile: **9442357392**
Phone: **+ 91 - 452 - 245 8471, Ex:337**
Fax: **+ 91 - 452 - 245 8449**

CERTIFICATE

This is to certify that the dissertation work entitled **"Greener Approach for Synthesis of 4-(((2mercaptophenyl)imino) methyl) benzaldehyde (MMB) for the Naked Eye Sensing of Hg^{2+}Ions"** has been carried out by **S.PAVITHRA (2020MSCC16)** under my supervision during the academic year 2021-2022. The dissertation has not been submitted in full or part for any diploma, degree or other similar title in this or any other University.

Place: Madurai

Date: 13.05.2022

Dr. V. S. Vasantha

Supervisor

The Head

Department of Natural Products Chemistry

Dr. V.S. VASANTHA
Professor
Department of Natural Products Chemistry
School of Chemistry
Madurai Kamaraj University
Madurai - 625 021

The Chairperson

School of Chemistry

CHAIRPERSON
School of Chemistry
Madurai Kamaraj University
Madurai - 625 021

BONAFIDE CERTIFICATE

This is to certify that **Ms. S.PAVITHRA**, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"Greener Approach for Synthesis of 4-(((2mercaptophenyl)imino) methyl) benzaldehyde (MMB) for the Naked Eye Sensing of Hg^{2+}Ions"** during the academic year 2021-2022 under the supervision of **Prof. V.S.VASANTHA,** Registrar (i/c), Head & Department of Natural Products Chemistry, 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

Mrs.R.M.NAGALAKSHMI, M.Sc., M.Phil., B.Ed.

Assistant Professor
Department of Chemistry
Fatima College
Madurai- 62501

EXTERNAL GUIDE

Prof. V.S.VASANTHA

Registrar (i/c) & Head
Department of Natural Products Chemistry
School of Chemistry
Madurai Kamaraj University
Madurai- 625021.

HEAD OF THE DEPARTMENT

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

EXTERNAL EXAMINER

06.06.2022

DECLARATION

I do here by declare that this dissertation entitled **"Greener Approach for Synthesis of 4-(((2mercaptophenyl)imino) methyl)benzaldehyde (MMB) for the Naked Eye Sensing of Hg^{2+} Ions"** submitted to Fatima College in partial fulfillment of requirement for the award of **MASTER OF SCIENCE IN CHEMISTRY**, is the result of study originally carried out by me independently under the guidance of **Prof. V. S. VASANTHA,** Registrar (i/c), Head & Department of Natural Products Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai-625 021. I also declare that this dissertation or part of work has not been published earlier elsewhere in any manner.

S. Pavithra.

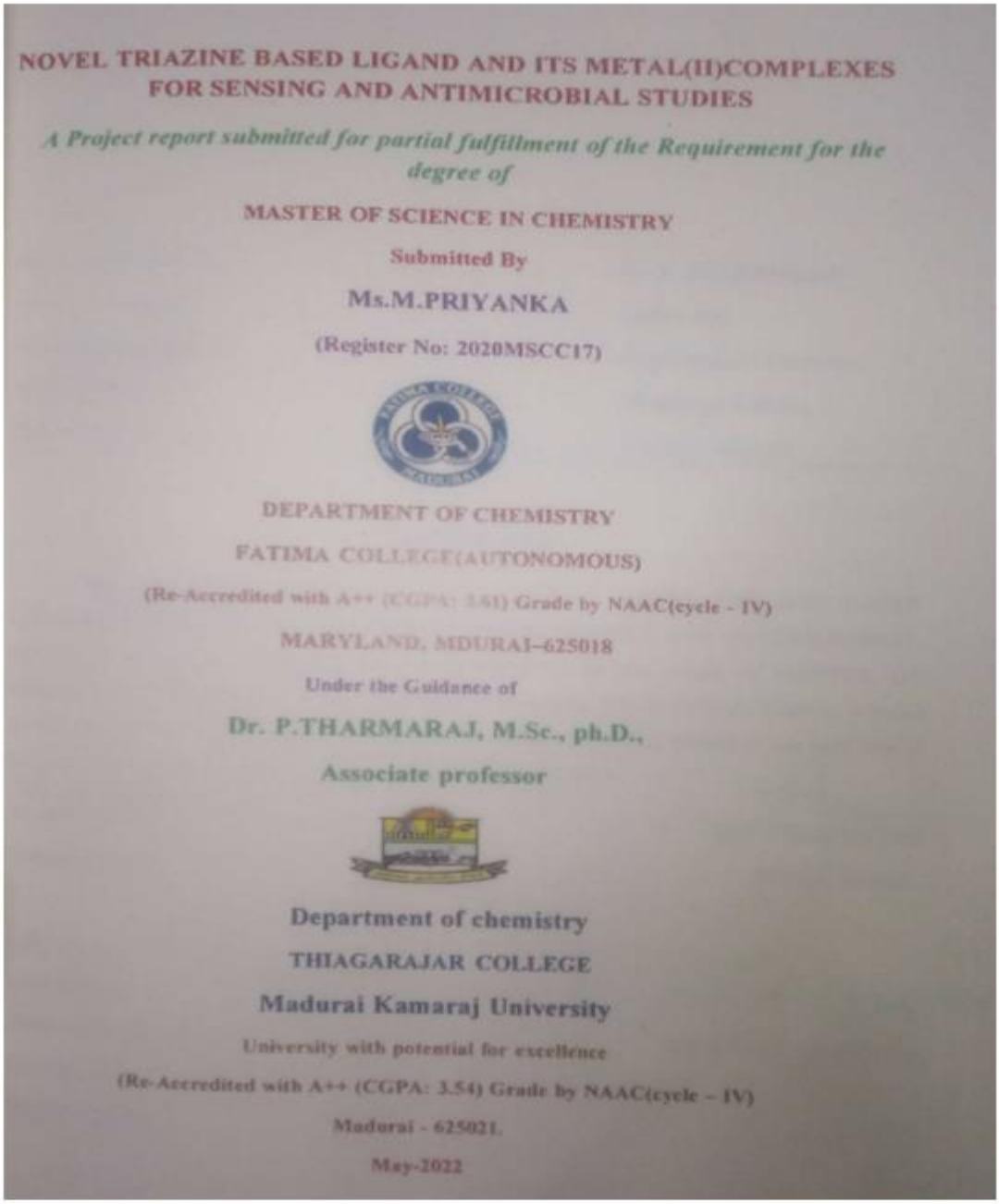
Place: Madurai - 18.

Date: 13.05.2022

Signature of the Candidate

S.PAVITHRA

(2020MSCC16)



NOVEL TRIAZINE BASED LIGAND AND ITS METAL(II)COMPLEXES FOR SENSING AND ANTIMICROBIAL STUDIES

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms.M.PRIYANKA

(Register No: 2020MSCC17)

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE(AUTONOMOUS)

(Re-Accredited with A++ (CGPA: 3.61) Grade by NAAC(cycle - IV)

MARYLAND, MDURAI–625018

Under the Guidance of

Dr. P.THARMARAJ, M.Sc., ph.D.,

Associate professor

Department of chemistry

THIAGARAJAR COLLEGE

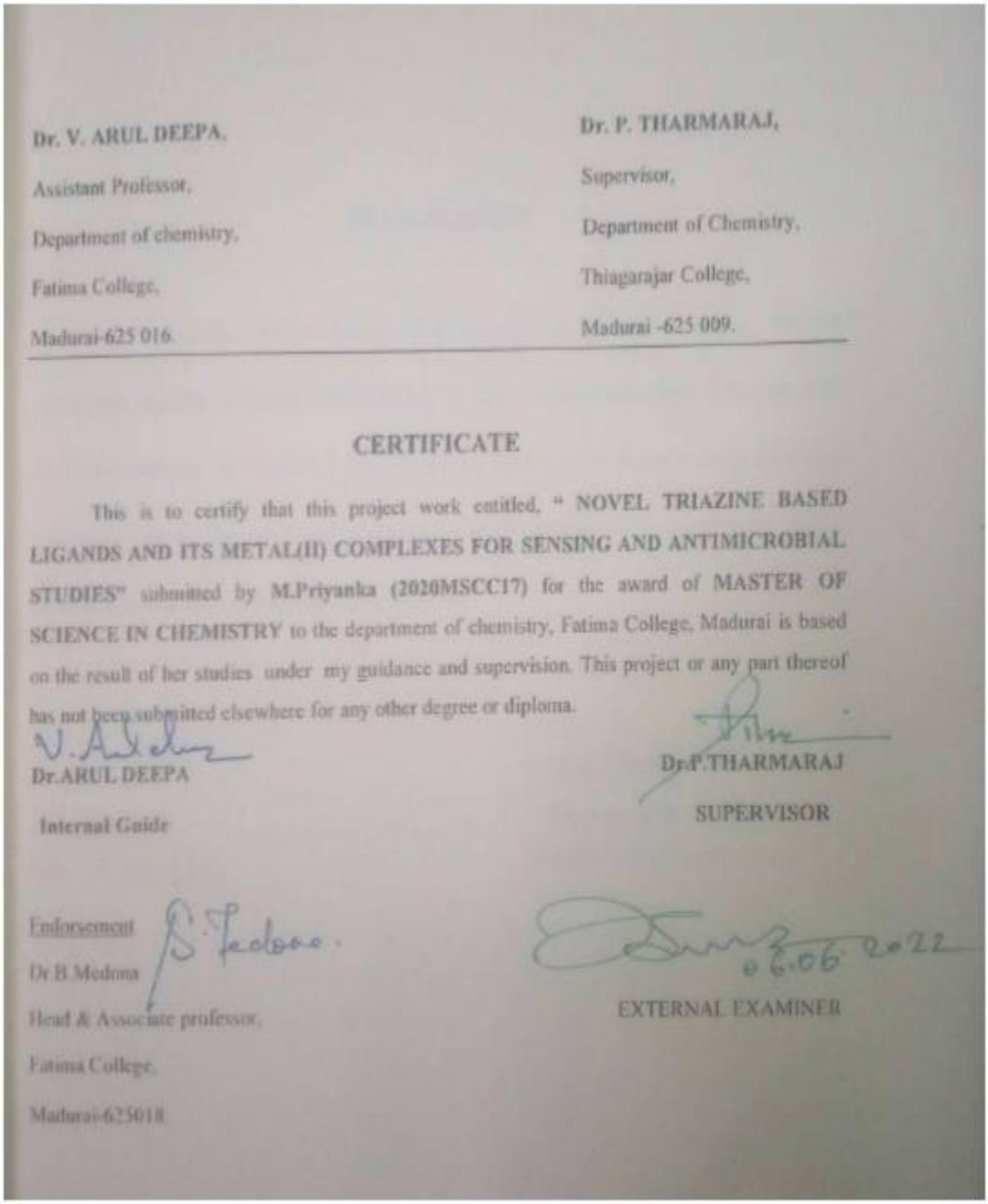
Madurai Kamaraj University

University with potential for excellence

(Re-Accredited with A++ (CGPA: 3.54) Grade by NAAC(cycle – IV)

Madurai - 625021.

May-2022



Dr. V. ARUL DEEPA,
Assistant Professor,
Department of chemistry,
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Madurai-625 016.

Dr. P. THARMARAJ,
Supervisor,
Department of Chemistry,
Thiagarajar College,
Madurai -625 009.

CERTIFICATE

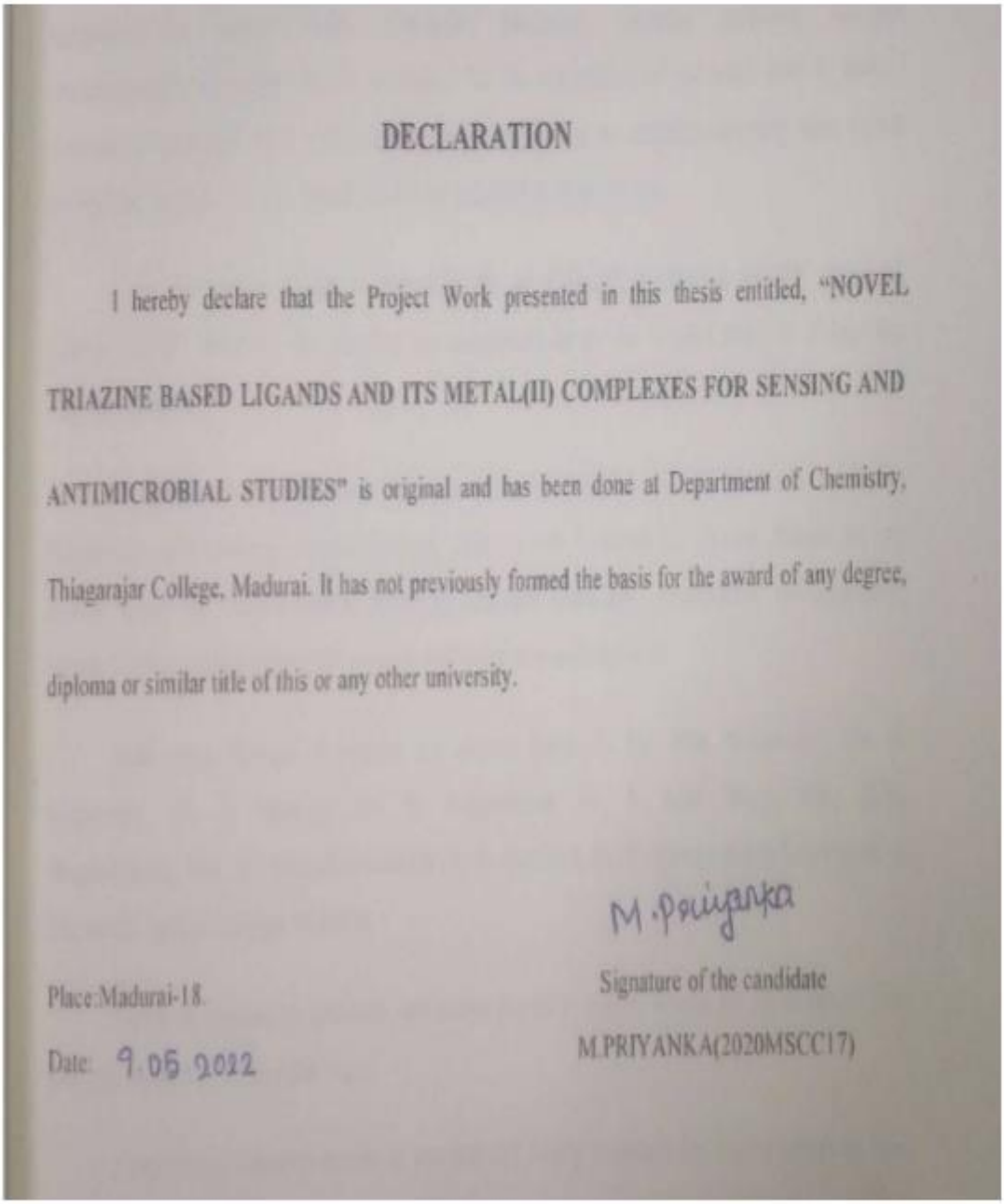
This is to certify that this project work entitled, " NOVEL TRIAZINE BASED LIGANDS AND ITS METAL(II) COMPLEXES FOR SENSING AND ANTIMICROBIAL STUDIES" submitted by M.Priyanka (2020MSCC17) for the award of MASTER OF SCIENCE IN CHEMISTRY to the department of chemistry, Fatima College, Madurai is based on the result of her studies under my guidance and supervision. This project or any part thereof has not been submitted elsewhere for any other degree or diploma.

Dr.ARUL DEEPA
Internal Guide

Dr.P.THARMARAJ
SUPERVISOR

Endorsement
Dr B Modona
Head & Associate professor,
Fatima College,
Madurai-625018

06.06.2022
EXTERNAL EXAMINER



DECLARATION

I hereby declare that the Project Work presented in this thesis entitled, "NOVEL TRIAZINE BASED LIGANDS AND ITS METAL(II) COMPLEXES FOR SENSING AND ANTIMICROBIAL STUDIES" is original and has been done at Department of Chemistry, Thiagarajar College, Madurai. It has not previously formed the basis for the award of any degree, diploma or similar title of this or any other university.

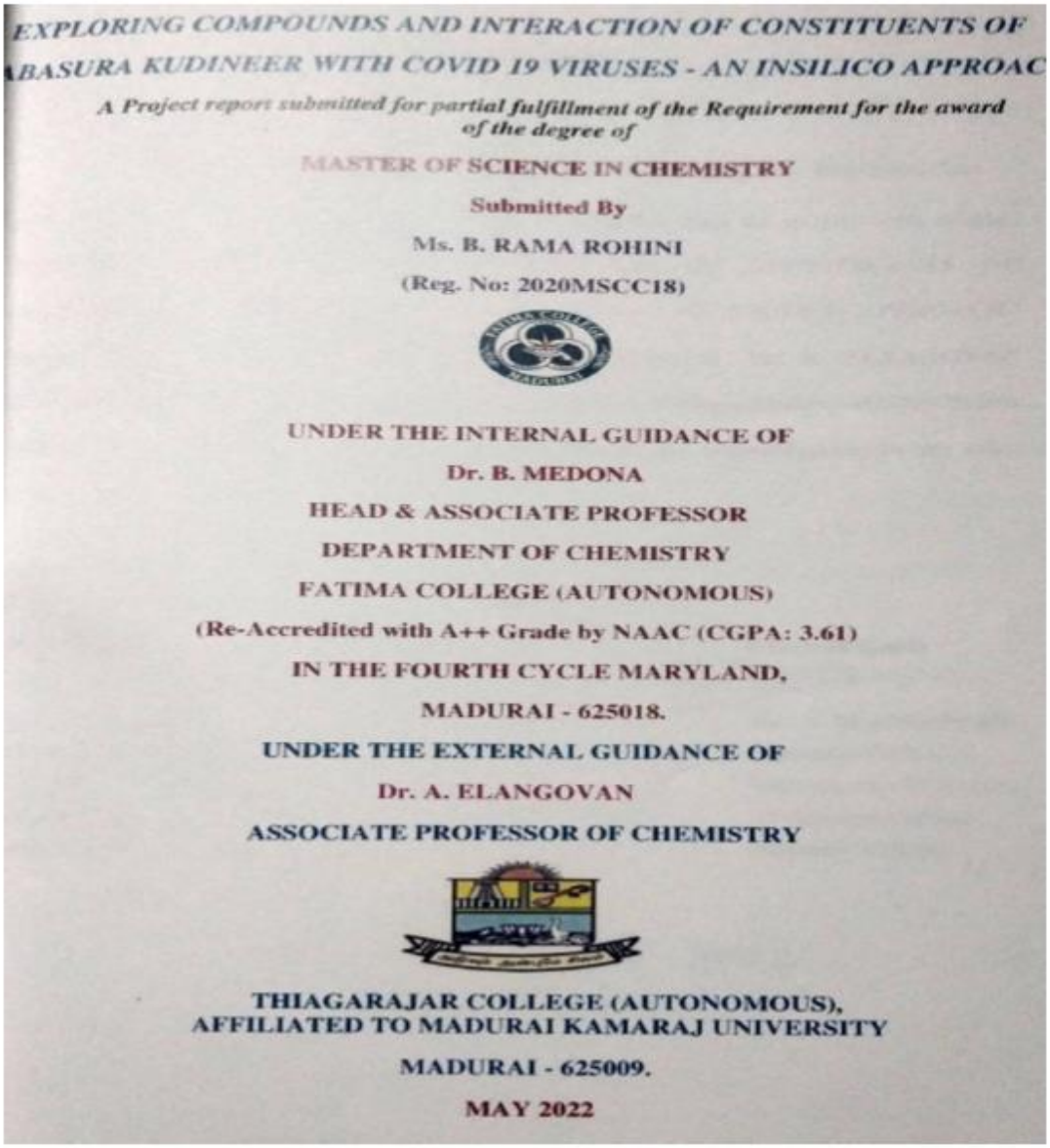
M.Priyanka

Signature of the candidate

M.PRIYANKA(2020MSCC17)

Place:Madurai-18.

Date: 9.05.2022



EXPLORING COMPOUNDS AND INTERACTION OF CONSTITUENTS OF
ABASURA KUDINEER WITH COVID 19 VIRUSES - AN INSILICO APPROAC

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. B. RAMA ROHINI

(Reg. No: 2020MSCC18)

UNDER THE INTERNAL GUIDANCE OF

Dr. B. MEDONA

HEAD & ASSOCIATE PROFESSOR

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 EXTERNAL GUIDANCE OF

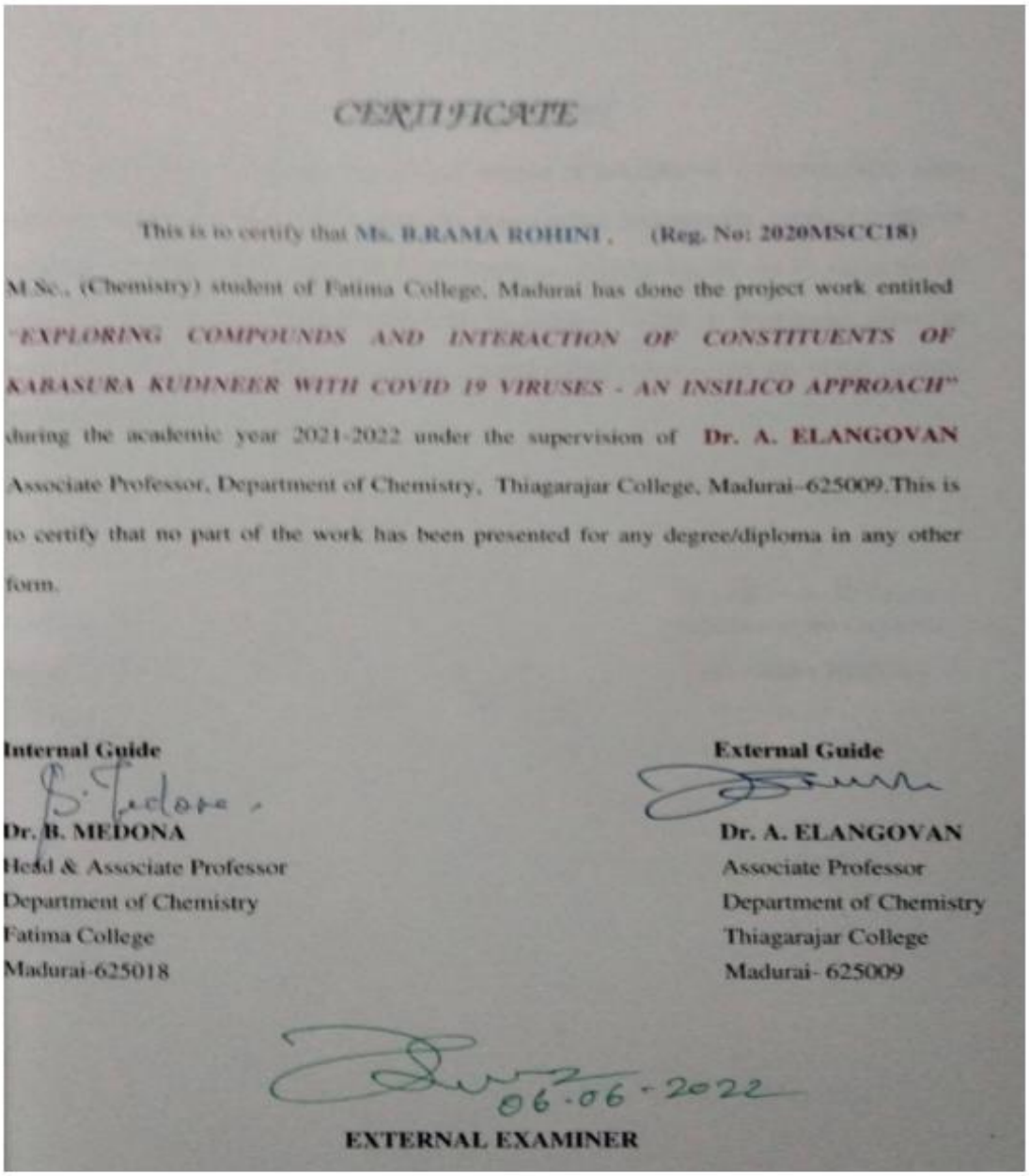
Dr. A. ELANGOVAN

ASSOCIATE PROFESSOR OF CHEMISTRY

THIAGARAJAR COLLEGE (AUTONOMOUS),
AFFILIATED TO MADURAI KAMARAJ UNIVERSITY

MADURAI - 625009.

MAY 2022



CERTIFICATE

This is to certify that Ms. B.RAMA ROHINI , (Reg. No: 2020MSCC18) M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled *"EXPLORING COMPOUNDS AND INTERACTION OF CONSTITUENTS OF KABASURA KUDINEER WITH COVID 19 VIRUSES - AN INSILICO APPROACH"* during the academic year 2021-2022 under the supervision of **Dr. A. ELANGOVAN** Associate Professor, Department of Chemistry, Thiagarajar College, Madurai–625009.This is to certify that no part of the work has been presented for any degree/diploma in any other form.

Internal Guide

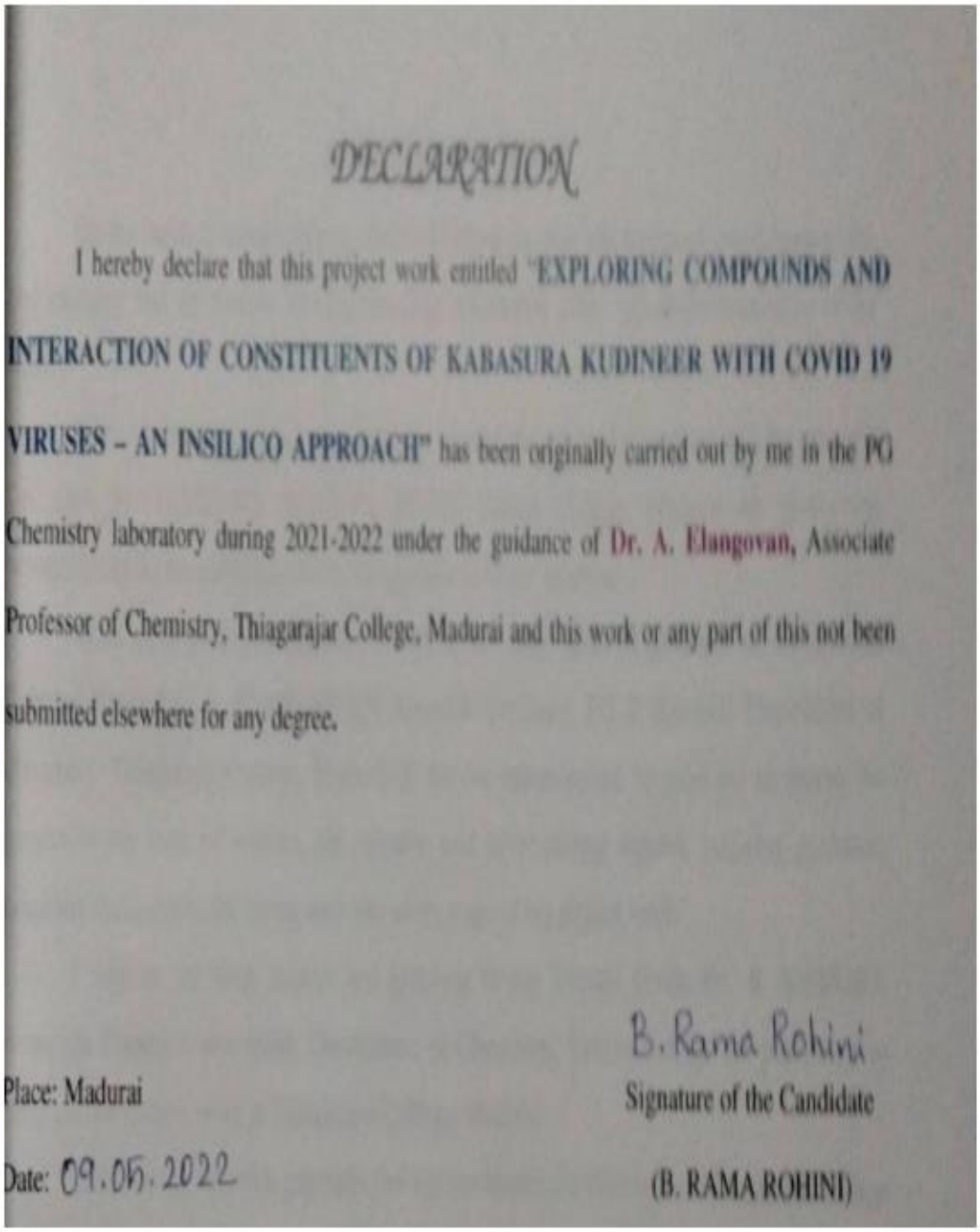
Dr. B. MEDONA
Head & Associate Professor
Department of Chemistry
Fatima College
Madurai-625018

External Guide

Dr. A. ELANGOVAN
Associate Professor
Department of Chemistry
Thiagarajar College
Madurai- 625009

06.06.2022

EXTERNAL EXAMINER



DECLARATION

I hereby declare that this project work entitled "EXPLORING COMPOUNDS AND INTERACTION OF CONSTITUENTS OF KABASURA KUDINEER WITH COVID 19 VIRUSES – AN INSILICO APPROACH" has been originally carried out by me in the PG Chemistry laboratory during 2021-2022 under the guidance of Dr. A. Elangovan, Associate Professor of Chemistry, Thiagarajar College, Madurai and this work or any part of this not been submitted elsewhere for any degree.

B. Rama Rohini

Place: Madurai

Signature of the Candidate

Date: 09.05.2022

(B. RAMA ROHINI)

"STUDIES ON NOVEL TRIAZINE BASED COMPOUND AND Cu(II) COMPLEX"

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

Master of Science in Chemistry

Submitted by

K. SINDHU

[Reg.No.2020MSCC21]

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

Re-Accredited with "A++"(CGPA 3.61) by NAAC (Cycle-IV)

MADURAI – 625 018.

Under the guidance of

Dr. P. THARMARAJ, M.Sc., Ph.D.,

Associate Professor,

Department of Chemistry,

Thiagarajar College,

Madurai- 625009.

MAY - 2022

Dr. M. PRIYADHARSANI
Assistant Professor
Department of Chemistry
Fatima College
Madurai-625 018.

Dr. P. THARMARAJ,
Supervisor,
Department of Chemistry,
Thiagarajar College,
Madurai -625 009.

CERTIFICATE

This is to certify that this project work entitled, **"STUDIES ON NOVEL TRIAZINE BASED COMPOUNDS AND Cu(II) COMPLEX"** submitted by **K.SINDHU (2020MSCC21)** for the award of **MASTER OF SCIENCE IN CHEMISTRY** to the department of chemistry, Fatima College, Madurai is based on the result of her studies under my guidance and supervision. This project or any part thereof has not been submitted elsewhere for any other degree or diploma.

Dr.M.PRIYADHARSANI
Internal Guide

Dr.P.THARMARAJ
Supervisor

Endorsement
Dr. B. MEDONA
Head & Associate Professor

06.06.2

External Examiner

DECLARATION

I hereby declare that the Project Work presented in this thesis entitled, **"STUDIES ON NOVEL TRIAZINE BASED COMPOUND AND Cu(II) COMPLEX"** is original and has been done at Department of Chemistry, Thiagarajar College, Madurai. It has not previously formed the basis for the award of any degree, diploma or similar title of this or any other university.

Place: Madurai

Date: 10.05.2022

K. Sindhu

K. SINDHU

(2020MSCC21)

A GREENER APPROACH FOR PORPHYRIN SYNTHESIS USING MICROWAVE IRRADIATION

A Dissertation submitted in partial fulfillment for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. S. SINDHUJHA

(Reg. No: 2020MSCC22)

UNDER THE GUIDANCE OF

Dr. P. SILVIYA REETA

ASSISTANT PROFESSOR

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(Re-Accredited with A++ Grade by NAAC (CGPA: 3.61)

IN THE FOURTH CYCLE MARYLAND,

MADURAI - 625018.

MAY 2022

CERTIFICATE

This is to certify that **Ms. S. SINDHUJHA, (Reg. No: 2020MSCC22)** M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled "**A GREENER APPROACH FOR PORPHYRIN SYNTHESIS USING MICROWAVE IRRADIATION**" during the academic year 2021-2022 under the supervision of Dr. **P. SILVIYA REETA** Assistant Professor, Department of Chemistry, Fatima college, Madurai–625018. This is to certify that no part of the work has been presented for any degree/diploma in any other form.

Internal Guide

Dr. P. SILVIYA REETA
Assistant Professor
Department of Chemistry
Fatima College
Madurai-625018

Head Of The Department

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

06.06.2022

EXTERNAL EXAMINER

DECLARATION

I hereby declare that this project work entitled "A GREENER APPROACH FOR PORPHYRIN SYNTHESIS USING MICROWAVE IRRADIATION" has been originally carried out by me in the PG Chemistry laboratory during 2021-2022 under the guidance of Dr. P. SILVIYA REETA, Assistant Professor of Chemistry, Fatima College, Madurai and this work or any part of this has not been submitted elsewhere for any degree.

S. Sindhujha

Place: Madurai

Signature of the Candidate

Date: 16.05.2022

(S. SINDHUJHA)

SYNTHESIS AND CHARACTERISATION OF α- AMINOPHOSPHONATES USING FERRIC CHLORIDE AS CATALYST

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. C. SIVA DHARSHANI

(Reg. NO: 2020MSCC23)

DEPARMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(Re-Accredited with A++ Grade by NAAC (CGPA: 3.61) in the fourth cycle)

MARY LAND, MADURAI – 625018.

Under the Guidance of

Dr.K.Karthik Kumar

Assistant Professor,

Department of Chemistry,

The American College,

Madurai – 625 002

May – 2022

The American College
The Department of Chemistry
Madurai Tamil Nadu – 625 002
INDIA

Since 1881

Dr. K Karthik Kumar
Assistant Professor
karthikkumar1265@gmail.com
Tel: + 91-9789975169

BONAFIDE CERTIFICATE

This is to certify that Ms. C. Siva Dharshani [Reg.No: 2020MSCC23] student of II. M.Sc., Chemistry, Department of Chemistry (PG), **Fatima College, Madurai- 18** carried out her M.Sc., Chemistry project work on "**Synthesis and characterization of α-aminophosphonate using $FeCl_3$ as catalyst**" in the **Organic and Material Chemistry Research Laboratory, Madurai- 02** from **1.12.2021- 30.04.2022**, for a period of four months, under the Guidance of **Dr. K. Karthik Kumar**, Assistant Professor, Department of Chemistry, The American College, Madurai- 02.

Dr. K. Karthik Kumar

CERTIFICATE

This is to certify that **Ms. C. SIVA DHARSHANI**, M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled" **" Synthesis and characterization of α- aminophosphonates using ferric chloride as catalyst"** the academic year 2021-2022 under the supervision **of Dr.K. Karthik Kumar,** Assistant professor, department of chemistry, The American college, Madurai-625002. 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. R. SUBIMOL
Assistant Professor
Department of Chemistry
Fatima College
Madurai- 625018

External Guide

Dr.K. Karthik Kumar,
Assistant Professor,
Department of Chemistry,
The American college
Madurai-625002

06.06.2022

Endorsement

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

DECLARATION

I do here by declare that this dissertation entitled **"Synthesis and characterization of α-aminophosphanates using ferric chloride as catalyst"** submitted to Fatima College in partial fulfilment 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.

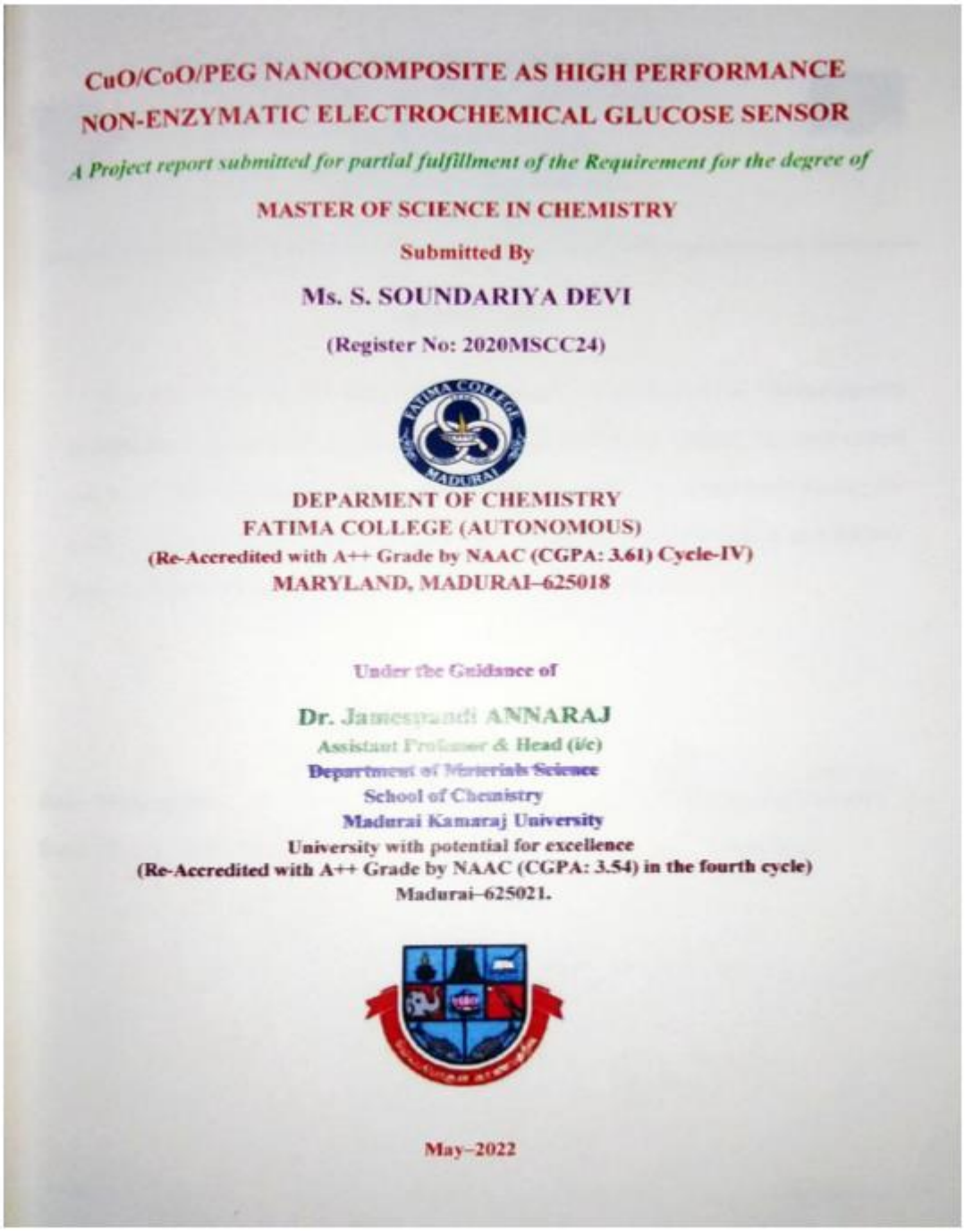
Place: Madurai - 18.

Date:

Signature of the Candidate

C. SIVA DHARSHANI

(2020MSCC23)



CuO/CoO/PEG NANOCOMPOSITE AS HIGH PERFORMANCE NON-ENZYMATIC ELECTROCHEMICAL GLUCOSE SENSOR

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

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. S. SOUNDARIYA DEVI

(Register No: 2020MSCC24)

DEPARMENT OF CHEMISTRY
FATIMA COLLEGE (AUTONOMOUS)
(Re-Accredited with A++ Grade by NAAC (CGPA: 3.61) Cycle-IV)
MARYLAND, MADURAI–625018

Under the Guidance of

Dr. Jamespandi ANNARAJ
Assistant Professor & Head (i/c)
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.

May–2022

MADURAI KAMARAJ UNIVERSITY

(University with Potential for Excellence)

Dr. Jamespandi Annaraj
Assistant Professor & Head (i/c)
Department of Materials Science
School of Chemistry

CERTIFICATE

This is to certify that the dissertation work entitled **"CuO/CoO/PEG Nanocomposite as High Performance Non-enzymatic Electrochemical Glucose Sensor"** has been carried out by **S. SOUNDARIYA DEVI (2020MSCC24)** under my supervision during the academic year 2021-2022. The dissertation has not been submitted in full or part for any diploma, degree or other similar title in this or any other Universities.

Place: Madurai-18

Date: 13.05.2022

Dr. Jamespandi Annaraj

Supervisor

MICROWAVE ASSISTED SYNTHESIS AND PHOTOPHYSICAL STUDI AXIALLY LIGATED Sn(IV) PORPHYRINS

A Dissertation submitted in partial fulfillment for the degree of

MASTER OF SCIENCE IN CHEMISTRY

Submitted By

Ms. M. SUSHMA

(Reg. No: 2020MSCC25)

UNDER THE GUIDANCE OF

Dr. P. SILVIYA REETA

ASSISTANT PROFESSOR

DEPARTMENT OF CHEMISTRY

FATIMA COLLEGE (AUTONOMOUS)

(Re-Accredited with A++ Grade by NAAC (CGPA: 3.61)

IN THE FOURTH CYCLE MARYLAND,

MADURAI - 625018.

MAY 2022

CERTIFICATE

This is to certify that **Ms. M. SUSHMA, (Reg. No: 2020MSCC25)** M.Sc., (Chemistry) student of Fatima College, Madurai has done the project work entitled **"MICROWAVE ASSISTED SYNTHESIS AND PHOTOPHYSICAL STUDIES OF AXIALLY LIGATED Sn(IV) PORPHYRINS"** during the academic year 2021-2022 under the supervision of **Dr. P. SILVIYA REETA** Assistant Professor, Department of Chemistry, Fatima college, Madurai–625018. This is to certify that no part of the work has been presented for any degree/diploma in any other form.

Internal Guide

P. Silviya Reeta

Dr. P. SILVIYA REETA
Assistant Professor
Department of Chemistry
Fatima College
Madurai-625018

Head Of The Department

B. Medona

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

06.06.2022

EXTERNAL EXAMINER

DECLARATION

I hereby declare that this project work entitled "MICROWAVE ASSI SYNTHESIS AND PHOTOPHYSICAL STUDIES OF AXIALLY LIGA Sn(IV) PORPHYRINS" has been originally carried out by me in the PG Chemistry lab during 2021-2022 under the guidance of Dr. P. SILVIYA REETA, Assistant Professor of Che Fatima College, Madurai and this work or any part of this has not been submitted elsewhere f degree.

M. Sushma.

Place: Madurai

Signature of the Candidate

Date: 16.05.2022

(M. SUSHMA)