

***Pinus Roxburgii* Leaf extract assisted synthesis of cerium oxide nanoparticles and the exploration of their potential towards the removal of dyes from water**

A

Dissertation

**Submitted for the partial fulfilment for the Degree
of**

**Master of Science in
CHEMISTRY**

By

HIMANSHU MEHRA

M.Sc. IV Semester, Physical Chemistry

**Under the Supervision of
Dr. Mahesh Chandra Arya**

**DEPARTMENT OF CHEMISTRY
D. S. B. CAMPUS,
KUMAUN UNIVERSITY NAINITAL UTTARAKHAND**

2024

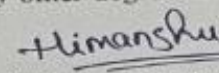


DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

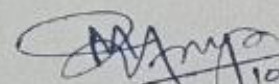
CERTIFICATE

I hereby certify that the work which is being presented in the dissertation entitled "*Pinus Roxburgii* Leaf extract assisted synthesis of cerium oxide nanoparticles and the exploration of their potential towards the removal of dyes from water" in partial fulfilment of the requirements for the award of Master's degree of Science in Chemistry and submitted in the Department of Chemistry of the Kumaun University Nainital is an authentic record of my work carried out during a period from 07 March 2022 to 31 May 2024 under the supervision of Dr Mahesh Chandra Arya, Assistant Professor, Department of Chemistry, Kumaun University Nainital.

The matter presented in this thesis has not been submitted by me for the award of any other degree of this or any other University/Institution.

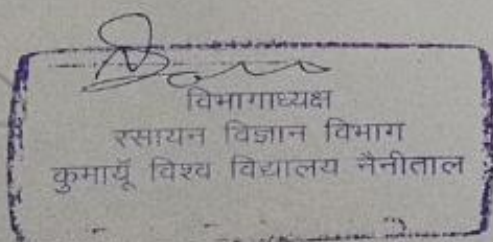

(Himanshu Mehra)

This is to certify that the candidate has put more than 50 days of attendance during his dissertation and the above statement made by him is correct to the best of my knowledge.


(Mahesh Chandra Arya)
Supervisor

Date: 10.06.2024

Asst. Professor
Deptt. of Chemistry
DSB Campus
Kumaun University
Nainital-263002



**Influence of Waste Plastic derived reduced Graphene
Oxide on the Thermal and Mechanical properties of
Polyethylene Terephthalate nanocomposites**



Dissertation

Submitted for the partial fulfilment of the
requirements for the degree
of

MASTER OF SCIENCE IN CHEMISTRY

Submitted to

Prof. Nanda Gopal Sahoo, FRSC

By

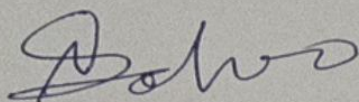
Prashant Bisht

M.Sc. Chemistry

4th Semester

CERTIFICATE

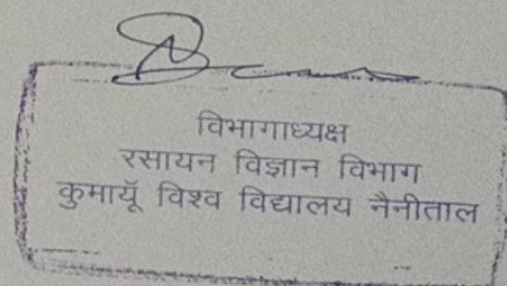
This is to certify that **Mr. Prashant Bisht** has carried out the dissertation work at Chemistry Department, D.S.B Campus, Kumaun University, Nainital under my supervision. The candidate has compiled the information through books and internet in this dissertation. The work included in the project titled, "**Influence of Waste Plastic derived reduced Graphene Oxide on the Thermal and Mechanical properties of Polyethylene Terephthalate Nanocomposites**" was performed by the candidate himself.



Prof. Nanda Gopal Sahoo

Department of Chemistry

D.S.B. Campus



1 1

**Synthesis and characterization of copper- and nickel
hexacyanidoferrate nanoparticles**

Dissertation

Submitted for fulfilment of the award of the degree

of

Master of science

in

Chemistry

Kumaun University, Nainital

by

Tanisha Bisht

Enrolment no: KU19127112

Department of Chemistry

D. S. B. Campus, Kumaun University

Nainital – 263001 (India)

June 2024

CERTIFICATE

I hereby certify that the work which is being presented in the dissertation entitled "**Synthesis and characterization of copper- and nickel hexacyanidoferrate**" for the award of the Degree of Master of Science in Chemistry and submitted to Kumaun University, Nainital, is an authentic record of my own work where others' ideas or words have been included, carried out during a period from March 2024 to May, 2024 under the supervision of Prof. Shah Raj Ali, Department of Chemistry, Kumaun University, Nainital. The matter presented in this dissertation has not been submitted by me for the award of any other degree of this or any other University.


Tanisha Bisht

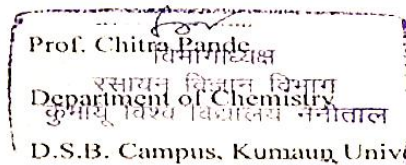
Enrolment no.: KU19127112

This is to certify that the candidate has put more than 90 days attendance during the course of her dissertation and the above statement made by her is correct to the best of my knowledge.


Prof. Shah Raj Ali
Supervisor

Forwarded by

Head 


Prof. Chitra Pande
विभागाध्यक्ष
रसायन विज्ञान विभाग
Department of Chemistry
कुमायूँ विश्व विद्यालय नैनीताल
D.S.B. Campus, Kumaun University, Nainital

VARIATION IN THE PHYSICAL PROPERTIES OF SOIL IN TWO DIFFERENT LOCATIONS

Dissertation Submitted

For

**The partial fulfilment of the requirement for the degree of
Master of Science in Chemistry**

2023-2024

Submitted By



Pradeep Chandra

M.Sc IV Sem

Inorganic Chemistry

Department of Chemistry

**D.S.B Campus, Kumaun University,
Nainital, Uttarakhand**

Under the supervision of



Dr. G. C. Kharkwal

Assistant Professor

Department of Chemistry

**D.S.B Campus, Kumaun University,
Nainital, Uttarakhand**

Certificate

This is to certify that Mr. Pradeep Chandra has carried out the dissertation work at the Chemistry Department, D.S.B. Campus, Kumaun University, Nainital, under my supervision. The candidate has compiled the information through his own observations done in the lab of the department. The work included in the project entitled "Variation in the Physical Properties of Soil in Two Different Locations" was performed by the candidate himself.

Pradeep
12/06/2024

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Dr. G.C. Kharkwal

Dr. G.C. Kharkwal
Assistant Professor
Department of Chemistry
D.S.B. Campus,
Kumaun University, Nainital

**WATER QUALITY ANALYSIS OF RUDRAPUR U. S. NAGAR
(UTTARAKHAND) REGION'S SOURCES**

DISSERATATION

Submitted for the Degree

Of

MASTER OF SCIENCE

IN

CHEMISTRY

SUBMITTED BY

AARTI PANDEY

Enrolment No. KU19134800

2023-2024

SUPERVISOR

Dr. DEEPSHIKHA JOSHI

Assistant Professor

DEPARTMENT OF CHEMISTRY

D. S. B. CAMPUS, KUMAUN UNIVERSITY, NAINITAL,

INDIA, 263001

CERTIFICATE

This is to certify that **Miss Aarti Pandey** has carried out the research work at Chemistry Department, D. S. B. Campus, Kumaun University, Nainital, India presented in this dissertation entitled **“Water quality analysis of Rudrapur, U.S. Nagar (Uttarakhand) Region’s sources”** is a record of the original research work carried out by her during the academic year 2023 to 2024 under my supervision. This Research work embodies results of original work and studies are carried out by the student herself. The candidate has been regular, sincere and hardworking throughout the period of dissertation work. The assistance and help received during the course of this project work and literature have duly been acknowledged.

Aarti Pandey
12/06/2024

[Signature]

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Signature

Deepshikha Joshi

Dr. Deepshikha Joshi
Assistant professor
Department of Chemistry
D. S. B. Campus,
Kumaun University, Nainital,
India

Deepshikha Joshi
9/June/2024

**VARIATION IN THE PHYSIOCHEMICAL PROPERTIES OF
SOIL SAMPLES FROM DIFFERENT FOREST ECOSYSTEM
DOMINATED BY OAK TREES (*Quercus leucotrichophora*)**

A

DISSERTATION WORK

DEGREE OF MASTERS IN SCIENCE

IN

CHEMISTRY

Submitted By

Lakshita Tiwari

Roll no. 220120660018

Department of chemistry

D.S.B Campus, Kumaun University

Nainital, Uttarakhand

Under the Supervision of

Dr. Akanksha Rani

Department of chemistry

D.S.B Campus, Kumaun University

Nainital, Uttarakhand

2023-2024

CERTIFICATE

This is to certify that the dissertation work entitled "Variation in the Physiochemical Properties of Soil Samples from Different Forest Ecosystem of Oak Tree" submitted in partial fulfillment requirement for the degree of Master of Science in Chemistry D.S.B Campus, Kumaun University Nainital is a record of dissertation work carried out by Miss Lakshita Tiwari under my supervision.

The assistance and help received during the course of this dissertation work and literature have been duly acknowledged.

*Copy
12/06/2024*

*Missed to
12/06/2024*

Dr. Akanksha Rani

Department of Chemistry

D.S.B Campus, Nainital

[Signature]

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**VARIATION IN THE PHYSIOCHEMICAL PROPERTIES OF SOIL SAMPLES FROM
DIFFERENT FOREST ECOSYSTEM**

A

DISSERTATION WORK

PARTIAL FULFILLMENT OF THE DEGREE OF MASTER OF SCIENCE

IN

CHEMISTRY

Submitted By

RUBINA

Roll No-220120660025

M.Sc. IV Semester (Inorganic Chemistry)

DEPARTMENT OF CHEMISTRY

D.S.B. Campus, Kumaun University

Nainital, Uttarakhand

Under The Supervision of

Dr. Akanksha Rani

Department of Chemistry

D.S.B. Campus, Kumaun University

Nainital, UTTARAKHAND

2024

CERTIFICATE

Certificate of Completion

This is to certify that **Rubina** has successfully completed the requirements for the Master of Science (M.Sc.) degree in **Chemistry** from **D.S.B. Campus, Kumaun University, Nainital**.

Title of Dissertation: "**Variation in the Physiochemical Properties of Soil Samples from Different Forest Ecosystem**"

Supervisor: **Dr. Akanksha Rani**

Date of Completion:

During the course of their study, **Rubina** demonstrated exemplary dedication, scholarly rigor, and a profound understanding of the subject matter in their dissertation work.

We hereby acknowledge **Rubina** achievement and wish them continued success in their future endeavors.

Given
12/06/2024

Signature


Dr. Akanksha Rani

Department of Chemistry

D.S.B.Campus,

Kumaun University, Nainital

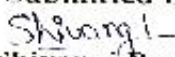


HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**Comparative Analysis of Soil Properties in Shantipuri and Mangoli Regions of
Uttarakhand**

**Dissertation Submitted
For
The partial fulfilment of the requirement for the degree of
Master of Science in Chemistry**

2023-2024

Submitted By

Shivangi Pawar
M.Sc IV Sem
Inorganic Chemistry
Department of Chemistry
D.S.B Campus, Kumaun University,
Nainital, Uttarakhand

Under the supervision of


Dr. G. C. Kharkwal
Assistant Professor
Department of Chemistry
D.S.B Campus, Kumaun University,
Nainital, Uttarakhand

CERTIFICATE

This is to certify that Miss Shivangi Pawar has carried out the research work at the Chemistry Department D.S.B. Campus, Kumaun University, Nainital, India, presented in this dissertation entitled "Comparative Analysis of Soil Properties in Shantipuri and Mangoli Regions of Uttarakhand". This dissertation is a record of the original research work carried out by her during the academic year 2023 to 2024 under my supervision. This research embodies the results of original work and studies carried out by the student herself. The assistance and help received during this project and from literature sources have been acknowledged.

Chandpur
12/06/2024



(Girish Ch. Kharkwal)
Assistant Professor
Department of Chemistry
D.S.B. Campus
Kumaun University, Nainital



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Synthesis, Functionalization and Characterisation of 4-Hydroxycoumarin Derivatives

Dissertation

Submitted for the partial fulfilment for the degree of

Master of Science in Chemistry

By

Arjun Badyari

M.Sc. IV semester

Roll no. : 220120660001

Enrolment no. : KU19127396

Under the supervision of

Dr. Penny Joshi

Assistant Professor

Department of Chemistry

D.S.B. Campus

Kumaun University, Nainital

263001

Uttarakhand

2024

CERTIFICATE

This is to certify that the project work entitled "**Synthesis, Functionalization and Characterisation of 4-Hydroxycoumarin Derivatives**", submitted in partial fulfilment of the requirement for the degree of Master of Science with major in Chemistry of the college D.S.B. Campus Nainital, India is a record of project work carried out by **Mr. Arjun Badyari** under my supervision. The assistance and help received during the course of this investigation have been duly acknowledged.

Nainital

2024



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

9/06/24
10/06/24

Dr. Penny Joshi

Department of Chemistry

DSB Campus Kumaun

University, Nainital

**DEVELOPMENT OF POLYMER
FUNCTIONALIZED GO BASED AS A NANO
CARRIER FOR THE ESSENTIAL OIL FROM
AERIAL PARTS OF *Aechmanthera* *Gossypina* .**

DISSERTATION SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

By

**MOHIT CHANDRA TEWARI
M.SC. IV SEMISTER**

SUPERVISOR

DR. LALIT MOHAN

TO

**DEPARTMENT OF CHEMISTRY
D.S.B CAMPUS
KUMAUN UNIVERSITY
NAINITAL 263001
UTTARAKHAND
2024**



CERTIFICATE

This is to certify that Mr. Mohit Chandra Tewari has carried out the project work, at Chemistry Department, D. S. B Campus Kumaun University Nainital, under my supervision. The candidate has been regular, sincere and hardworking throughout the period of dissertation work.

The work include in the project entitled "Development Of Polymer Functionalized Go Based As A Nano Carrier For The Essential Oil From Aerial Parts Of Aechmanthera Gossypina" was performed by the candidate by himself during the M. Sc-IV Semester.

The assistance and help received during the course of this project work and literature have duly acknowledged.

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Dr. Lalit Mohan
(Assistant Professor)
Department of Chemistry
D.S.B.Campus (K.U) Nainital

Spectroscopic Method for Structure Determination of Organic Compound

Dissertation

Submitted for the partial fulfilment of
Master of Science
in
Chemistry

Submitted

by

Anchal Kaur

Enrolment No: KU19127359

Under the supervision

Of

Dr. Mohd. Suhel Javed

Department of Chemistry

D.S.B. Campus

Kumaun University,

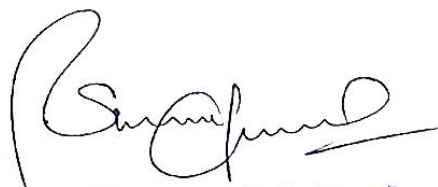
Nainital -263001 Uttarakhand, (India)

Certificate

This is certified that Miss Anchal Kaur, M.Sc. IV Semester, has carried out her Dissertation work for the partial fulfilment of Master's in Science in Department of Chemistry, D.S.B. Campus, Kumaun University, Nainital under my Supervision. The candidate has been regular, sincere and hardworking throughout the period of project work. The work included in the project entitled "Spectroscopic Methods for Structure Determination of Organic Compounds" was performed by the candidate herself under the Supervision and guidance given during the Semester session 2024.



**HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL**



Dr. Mohd. Suhel Javed
Associate Professor
Department of Chemistry
Kumaun University, Nainital (U.K.)

**CARROT PEEL POWDER : A SUSTAINABLE AND POSSIBLE BIOSORBENT FOR
REMOVING HEAVY METALS FROM WASTE WATER.**

A DISSERTATION WORK

M.Sc IV SEMESTER

(In Chemistry)

SUBMITTED BY:

Anjali Joshi

M.Sc IV Semester , 2024

Department of Chemistry

D.S.B Campus ,Kumaun University , Nainital.

SUBMITTED TO:

Dr. Manoj Dhouni

ASSISTANT PROFESSOR

Department of Chemistry

D.S.B Campus ,Kumaun University , Nainital



DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY, NAINITAL

CERTIFICATE

This is certified that the Dissertation work entitled " Carrot peel powder : A possible Biosorbent for removing heavy metals from waste water " submitted for the fulfilment of the dissertation work in Chemistry is carried out by Miss Anjali Joshi from D.S.B Campus , Kumaun University , Nainital , under my Supervision .

The Dissertation embodies the result of her investigation conducted during the period she worked as a Master's Degree student . I recommend the dissertation work for Evaluation .

Dr. MANOJ DHOUNI

ASSISTANT PROFESSOR

DEPARTMENT OF CHEMISTRY

D.S.B CAMPUS , KUMAUN UNIVERSITY

NAINITAL.

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**DEVELOPMENT OF POLYMER
FUNCTIONALIZED GO BASED AS A NANO
CARRIER FOR THE ESSENTIAL OIL FROM
AERIAL PARTS OF *Achillamillefolium***

DISSERTATION SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

By

ANKITA AGRI
M.SC. IV SEMISTER

SUPERVISOR

DR. LALIT MOHAN

TO

DEPARTMENT OF CHEMISTRY
D.S.B CAMPUS
KUMAUN UNIVERSITY
NAINITAL 263001
UTTARAKHAND
2024



CERTIFICATE

This is to certify that Miss Ankita Agrhas carried out the project work at Chemistry Department, D. S. B Campus Kumaun University Nainital, under my supervision. The candidate has been regular, sincere and hardworking throughout the period of dissertation work.

The work include in the project entitled "Development Of Polymer Functionalized GO Based as A Nano Carrier For The Essential Oil From Aerial Parts Of Achilla Millefolium" was performed by the candidate by himself during the M. Sc-IV Semester.

The assistance and help received during the course of this project work and literature have duly acknowledged.

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Dr. Lalit Mohan
(Assistant Professor)
Department of Chemistry
D.S.B.Campus (K.U) Nainital

"Chemical Profile and Uses of *Cymbopogon distans* (Nees ex Steud.) Wats"

Dissertation

***Submitted in the partial fulfilment of the degree of
Masters of Science in Chemistry***

Department of Chemistry
D.S.B Campus
Kumaun University, Nainital, Uttarakhand

Submitted by
Ankita Kulyal
220120660010
MSc IV Semester
2023-24

Submitted to
Prof. Chitra Pande
Department of Chemistry

CERTIFICATE

This is to certify that **Miss Ankita Kulyal** has carried out the dissertation work at Chemistry Department D.S.B Campus, Kumaun University, Nainital, under my supervision. The candidate has compiled the information through books and internet in this dissertation. The work included in the project titled "**Chemical Profile and Uses of *Cymbopogon distans* (Nees ex Steud.) Wats**" was performed by the candidate herself.



Dr. Chitra Pande

**Head of the Chemistry Department
D.S.B Campus, Kumaun University
Nainital - 263001**

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Essential Oil Composition of *Thymus linearis* Benth

Dissertation Submitted to
Department of Chemistry
D.S.B. Campus, Kumaun University, Nainital

By
Bhawna Kabdwal
M.Sc. IV semester
Roll No. 220120660011

IN PARTIAL FULFILMENT FOR THE DEGREE OF

Master of Science
(Chemistry)

Under the supervision of
Dr. Akanksha Rani
D.S.B. Campus Nainital

June, 2024

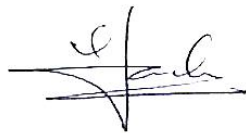
CERTIFICATE

This is to certify that the project work entitled “**Essential Oil Composition of *Thymus linearis Benth***”, submitted in partial fulfilments of the requirements for the degree of **Master of Science** with major in Chemistry of the College D.S.B. Campus Nainital India is a record of project work carried out by **Ms. Bhawna Kabdwal** under my supervision and no part of this work has been submitted for any other degree or diploma.

The assistance and help received during the course of this investigation have been duly acknowledged.

Nainital
June, 2024


Dr. Akanksha Rani
Department of Chemistry
D.S.B. Campus, Nainital



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**Spectroscopic Methods for Structure
Determination of Organic Compounds
(Session:2023-2024)**

Dissertation Submitted to:
**Department of Chemistry
D.S.B. Campus, Kumaon University, Nainital**

Submitted in
Partial fulfilment of the requirement for the degree of
Master of Science in Chemistry

Submitted by:
Garima Joshi

Under the supervision
Of
Dr. Mohd. Suheil Javed
(Associate Professor)
Department of Chemistry
D.S.B. Campus, Kumaon University, Nainital,
Uttarakhand

CERTIFICATION

This is certification that Miss Garima Joshi, M.Sc. Semester, has carried out her dissertation work for the partial fulfilment of Master in Science in Department of Chemistry, D.S.B. Campus, Kumaon University, Nainital under my Supervision. The candidate has been regular, sincere and hardworking throughout the period of project work.

The work included in the project entitled "**Spectroscopic Methods for Structure Determination of Organic Compounds**" was performed by the candidate herself under the Supervision and guidance given during the Semester session 2024.



Dr. P. C. Joshi
Department of Chemistry
D.S.B. Campus
Kumaon University, Nainital (U.K.)



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

***EXTRACTION AND TLC ANALYSIS OF METHANOLIC EXTRACT OF
MARCHANTIA***

Dissertation

Submitted by

GARIMA JOSHI

Requirements for

The award of the degree of

Master of Science (Chemistry)

**Department of Chemistry, D.S.B Campus, Kumaoun University,
Nainital, Uttarakhand**

Under the supervision of

Dr. Penny Joshi

Assistant Professor

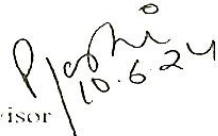
**Department of Chemistry, Kumaun University,
Nainital, Uttarakhand**

CERTIFICATE

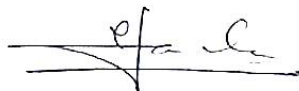
This is to certify that **Miss Garima Joshi** has carried out her M.Sc. IV semester project work under my supervision at the Chemistry department, D.S.B. Campus, Kumaun University Nainital. The candidate has put in the required period of attendance in the department.

The work included in the project entitled "**Extraction and TLC analysis of Methanolic extract of Marchantia**" has not been submitted to any other university or institute for any other degree as per my knowledge.

Date: 10-06-2024


Supervisor

Dr. Penny Joshi



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

BANANA PEEL POWDER AS A BIOSORBENT FOR REMOVING HEAVY METALS

SUBMITTED FOR DEGREE OF MASTERS OF SCIENCE IN CHEMISTRY

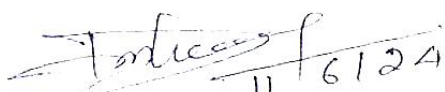
SUBMITTED BY
GUNJAN JOSHI
MSc IV Semester
Organic Chemistry

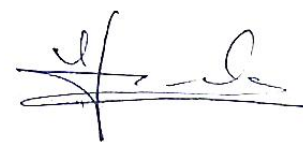
SUPERVISOR
Dr. MANOJ DHOUNI
ASSISTANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B CAMPUS, KUMAUN UNIVERSITY, NAINITAL.
2024

CERTIFICATE

This is certified that the project work entitled 'BANANA PEEL POWDER A POSSIBLE BIOSORBENT HEAVY METALS FROM WASTE WATER' submitted for degree of MASTER OF SCIENCE IN CHEMISTRY DSB Campus, Kumaun university, Nainital Is a record of project work carried out by Ms. Gunjan Joshi under my supervision. the assistance and help received during this project work and literature have been duly acknowledged.

She has put full attendance in the Department of chemistry, DSB campus, Nainital, during this project work


Dr. MANOJ DHOUNI
ASSISTANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B CAMPUS, NAINITAL


HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**ORANGE PEEL POWDER: POSSIBLE BIOSORBENT
FOR REMOVING HEAVY METALS FROM WASTE
WATER**

**SUBMITTED FOR THE DEGREE OF MASTERS OF SCIENCE IN
CHEMISTRY**

**SUBMITTED BY
HARSHITA MARTOLIA
M.SC.4TH SEMESTER
ORGANIC CHEMISTRY**

**SUPERVISOR
DR. MANOJ DHOUNI
ASSISTANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B. CAMPUS, KUMAUN UNIVERSITY, NAINITAL
2024**

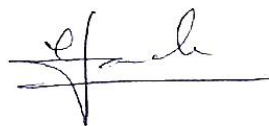
CERTIFICATE

This is certified that the program work certificate "ORANGE PEEL POWDER AS POSSIBLE BIOSORBENT FOR REMOVING HEAVY METALS FROM WASTE WATER" submitted for the degree of master of science Chemistry, D.S.B. Campus, Kumaun university, Nainital is record of dissertation work carried out by Miss. Harshita Martolia under my supervision and no part of this work has submitted for any degree or diploma. The assistance and help received during this dissertation work and literature have been duly acknowledged.

He has put full attendance in Department of Chemistry, D.S.B. Campus, Kumaun University, Nainital, during the dissertation work.

 6124

DR. MANOJ DHOUNI
ASSISTANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B. CAMPUS
KUMAUN UNIVERSITY, NAINITAL



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**A Review on Lichen Medicated
Fabrication of Nanoparticles**

Dissertation

Submitted for the partial fulfilment of the
requirement for

Master of Science in Chemistry

By

Jyoti Pant

M.Sc. IV Semester

Department of Chemistry, D.S.B Campus

Kumaun, University Nainital

Under the supervision of

Dr. Penny Joshi

Assistant Professor

Department of chemistry, Kumaun University

Nainital, Uttarakhand

2024

CERTIFICATE

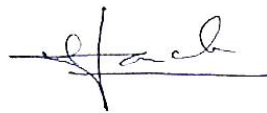
This is to certify that the project work entitled "A review on Lichen Medicated Fabrication of Nanoparticles", submitted in partial fulfilment of the requirement for the degree of Master of Science with major in Chemistry of the college D.S.B. Campus Nainital, India is a record of project work carried out by Miss. Jyoti Pant under my supervision and no part of this work has been submitted for any other degree or diploma.

The assistance and help received during the course of this investigation have been duly acknowledged.

Date: 10-06-2024

P. Joshi
10/6/24
Dr. Penny Joshi

Department of Chemistry



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Pea Peel as a possible Biosorbent for the heavy metal ions.

A

Dissertation

Submitted for the partial fulfilment for the Degree

OF

Master of Science in **CHEMISTRY**

By

Monika Pokhariya

M.Sc.4th Semester

Under the supervision of

Dr. Manoj Dhouni

Assistant Professor

Department of Chemistry

D.S.B. Campus

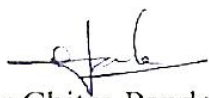
Kumaun University Nainital – 263001

Uttarakhand

2024

CERTIFICATE

This is to certify that the project is titled "**Pea peel as a possible biosorbent for heavy metal ion**". This dissertation is submitted by Monika Pokhariya, D.S.B Campus Nainital for the requirement for Master's Degree in Chemistry. This dissertation was an authentic work done under by me under my guidance and supervision.

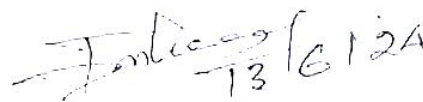


Professor Chitra Pande

Head

Department of Chemistry

D.S.B Campus Nainital



Dr. Manoj Dhouni

Assistant Professor

Department of Chemistry

D.S.B Campus Nainital

Supervisor



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Spectroscopic Methods for Structure Determination of Organic Compounds

Dissertation Submitted to:
Department of chemistry
D.S.B. Campus, Kumaon University,
Nainital

Submitted in
Partial fulfilment of the requirement for the degree
of
Master of Science in Chemistry

Submitted by:
Payal Verma

Under the supervision
Of
Dr. Mohd. Suheil Javed
(Associate Professor)
Department of Chemistry
D.S.B. Campus, Kumaon University, Nainital,
Uttarakhand

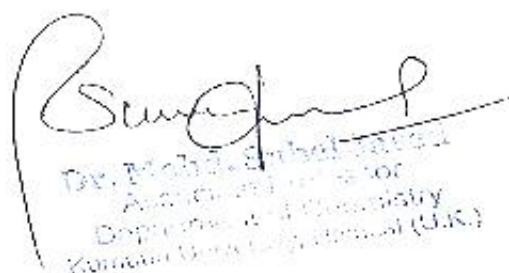
CERTIFICATE

This is certified that Miss Payal Vorma, M.Sc. IV semester, has carried out her Dissertation work for the partial fulfilment of Master's in science in Department of Chemistry, D.S.B Campus, Kumaon University, Nainital under my Supervision. The candidate has been regular, sincere and hardworking throughout the period of project work.

The work included in the project entitled "*Spectroscopic Methods for Structure Determination of Organic Compounds*" was performed by the candidate herself under the supervision and guidance given during the Semester session 2024.



HEAD
DEPARTMENT OF CHEMISTRY
KUMAON UNIVERSITY NAINITAL



Dr. Mohd. Imshad Tareen
Associate Professor
Department of Chemistry
Kumaon University Nainital (U.K.)

DEVELOPMENT OF POLYMER
FUNCTIONALIZED GO BASED AS A NANO
CARRIER FOR THE ESSENTIAL OIL FROM
AERIAL PARTS OF *Eupatorium adenophorum*

DISSERTATION SUBMITTED FOR THE DEGREE OF

MASTER OF SCIENCE

IN

CHEMISTRY

By

POOJA GUPTA
M.SC. IV SEMISTER

SUPERVISOR

DR. LALIT MOHAN

TO

DEPARTMENT OF CHEMISTRY

D.S.B CAMPUS

KUMAUN UNIVERSITY

NAINITAL 263001

UTTARAKHAND

2024



CERTIFICATE

This is to certify that *Miss Pooja Gupta* has carried out the project work at Chemistry Department, D. S. B Campus Kumaun University Nainital, under my supervision. The candidate has been regular, sincere and hardworking throughout the period of dissertation work.

The work include in the project entitled "*Development Of Polymer Functionalized Go Based As A Nano Carrier For The Essential Oil From Aerial Parts Of Eupatorium adenophorum*" was performed by the candidate by himself during the M. Sc-IV Semester.

The assistance and help received during the course of this project work and literature have duly acknowledged.

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Dr. Lalit Mohan
(Assistant Professor)
Department of Chemistry
D.S.B.Campus (K.U) Nainital

SPECTROSCOPIC METHODS FOR STRUCTURE DETERMINATION OF ORGANIC COMPOUNDS

A
DISSERTATION WORK
For

The Fulfilment
Of
Masters of Science in Chemistry

Submitted to

**Department of Chemistry
DSB Campus, Kumaun University, Nainital**

Submitted by
POOJA

Under the supervision of

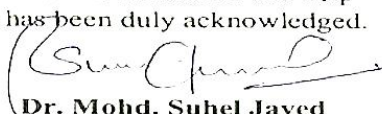
Dr. MOHD, SUHEL JAVED (Associate Professor)

Department of Chemistry

D.S.B. Campus, Kumaun University, Nainital, Uttarakhand

CERTIFICATE

This is to certify that the dissertation work entitled "**Spectroscopic Methods for Structure Determination of Organic Compounds**" submitted in fulfillment of the requirements for the degree of Master of Science in Chemistry, **Kumaun University, Nainital (D.S.B. Campus)** is a record of dissertation work carried out by Miss Puja under my supervision and no part of this work has been submitted for any degree or diploma. The assistance and help received during the course of this project work and Literature has been duly acknowledged.



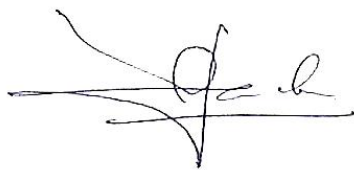
Dr. Mohd. Suhel Javed

Associate Professor

Department of Chemistry

D.S.B Campus,

Kumaun University



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Principle of protection of alcohols and carbonyl groups :A review

Dissertation

Submitted

By

Priyanka Karki

In partial fulfilment of the requirements for
The award of the degree of

Master of Science

(Chemistry)

M.Sc. IV Semester

**Department of Chemistry, D.S.B. Campus,
Kumaun University, Nainital,
Uttarakhand**

Under the supervision
of

Dr. Penny Joshi

**Department of Chemistry,
Kumaun University,
Nainital, Uttarakhand**

June 2024

CERTIFICATE

This is to certify that Miss Priyanka Karki has carried out his M.Sc. 4th semester project work under my supervision in Department of Chemistry, D.S.B. Campus, Kumaun University Nainital. The candidate has put in the required period of attendance in the department.

Date: 10.06.24



Penny Joshi
10/6/24.
(Dr. Penny Joshi)

POTATO PEEL A POSSIBLE BIOSORBENT FOR THE HEAVY METAL IONS

PROJECT WORK
SUBMITTED FOR THE DEGREE OF MASTER OF SCIENCE
IN
CHEMISTRY

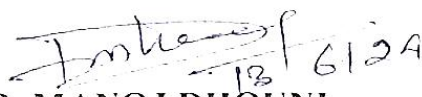
SUBMITTED BY
RENUKA DEOLIA
M.Sc. 4th SEMESTER
ORGANIC CHEMISTRY

SUPERVISOR
DR. MANOJ DHOUNI
ASSITANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B. CAMPUS KUMAUN UNIVERSITY, NAINITAL- 263001
UTTARAKHAND
2024

CERTEFICATE

This is to certified that the program work certificate "**Potato peel a Possible Biosorbent for heavy metal ions from waste water**". Submitted for the degree of master of science chemistry, D.S.B. campus, Kumaun university, Nainital is record of dissertation work carried out by Miss. Renuka Deolia under my supervision and no part of this work has submiited for any degree or diploma. The assistance and help received during this dissertation work and literature have been duly acknowledged.

He has put full attendance in Department of chemistry, D.S.B. Campus, Kumaun University, Nainital, during the dissertation work.


DR. MANOJ DHOUNI
ASSITANT PROFESSOR
DEPARTMENT OF CHEMISTRY
D.S.B. CAMPUS
KUMAUN UNIVERSITY, NAINITAL


HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Spectroscopic Methods For Structure Determination Of Organic Compounds

{Session:2023-2024}

Dissertation Submitted to:

Department of Chemistry

D.S.B. Campus, Kumaun University, Nainital

Submitted in

Partial fulfilment of the requirement for the degree of
Master of Science in Chemistry

Submitted by:

Shaifali Joshi

Under the supervision

Of

Dr. Mohd. Suhail Javed

(Associate Professor)

Department of Chemistry

D.S.B. Campus, Kumaun University, Nainital, Uttarakhand

CERTIFICATE

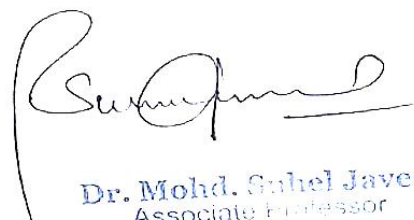
This is certified that Miss Shaifali Joshi, M.Sc. IV Semester, has carried out her Dissertation work for the partial fulfilment of Master in Science in Department of Chemistry, D.S.B Campus ,Kumaon University ,Nainital under my supervision .The candidate has been

regular, sincere and hardworking throughout the period of project work.

The work included in the project entitled **"Spectroscopic Methods for Structure Determination of Organic Compounds"** was performed by the candidate herself under the Supervision and guidance given during the Semester session 2024.



HEAD
DEPARTMENT OF CHEMISTRY
KUMAON UNIVERSITY NAINITAL



Dr. Mohd. Suhel Javed
Associate Professor
Department of Chemistry
Kumaon University, Nainital (U.K.)

Synthesis and Characterization of Substituted Quinoline Derivatives

DISSERTATION

Submitted for partial fulfilment
of the
MASTER OF SCIENCE (M.Sc.)
in
CHEMISTRY
of
Kumaun University, Nainital

By

SHREYA JUKARIA

Enrollment No. KU19112866
2023-24

SUPERVISOR

Dr. Penny Joshi

Assistant Professor

DEPARTMENT OF CHEMISTRY, D.S.B. CAMPUS,
KUMAUN UNIVERSITY, NAINITAL, INDIA

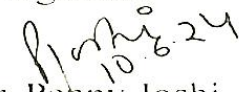
263001

CERTIFICATE

This is to certify that Miss. Shreya Jukaria has carried out the dissertation work at Chemistry Department, D.S.B. Campus, Kumaun University, Nainital, India under my supervision. The work presented in this dissertation entitled:- **"Synthesis and Characterization of Substituted Quinoline Derivatives"** is a record of original research work carried out by her during academic year 2023-24.

Date: 10 / 06 / 2024

Signature


10.6.24
Dr. Penny Joshi

Assistant Professor

Department of Chemistry,
D.S.B. Campus, K.U. Nainital



HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

**DEVELOPMENT OF POLYMER
FUNCTIONALIZED GO BASED AS A NANO
CARRIER FOR THE ESSENTIAL OIL FROM
AERIAL PARTS OF *Thymus vulgaris* Linn.**

DISSERTATION SUBMITTED FOR THE DEGREE OF

**MASTER OF SCIENCE
IN
CHEMISTRY**

By

**VAISHNAVI
M.SC. IV SEMISTER**

**SUPERVISOR
DR. LALIT MOHAN**

TO

**DEPARTMENT OF CHEMISTRY
D.S.B CAMPUS
KUMAUN UNIVERSITY
NAINITAL 263001
UTTARAKHAND
2024**



CERTIFICATE

This is to certify that Miss Vaishnavi has carried out the project work at Chemistry Department, D. S. B Campus Kumaun University Nainital, under my supervision. The candidate has been regular, sincere and hardworking throughout the period of dissertation work.

The work include in the project entitled "Development Of Polymer Functionalized Go Based As A Nano Carrier For The Essential Oil From Aerial Parts Of Thymus vulgaris Linn" was performed by the candidate by himself during the M. Sc-IV Semester.

The assistance and help received during the course of this project work and literature have duly acknowledged.

HEAD
DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL

Dr. Lalit Mohan
(Assistant Professor)
Department of Chemistry
D.S.B.Campus (K.U) Nainital

TLC Analysis of Acetone Extract of *Marchantia*

Dissertation

Submitted for the partial fulfilment for the degree of

Master of Science in Chemistry

By

Yamini Rawat

M.Sc. IV Semester

Roll No. : 220120660030

Enrollment No. : KU19119211

Department of Chemistry, D.S.B Campus

Kumaun University, Nainital

Under the supervision of

Dr. Penny Joshi

Assistant Professor

Department of Chemistry, Kumaun University,

Nainital Uttarakhand

2024

CERTIFICATE

This is to certify that **Miss Yamini Rawat**, a student of the M.Sc. (4th Semester) Department of Chemistry Kumaun University Nainital, carried out the dissertation project entitled "**TLC Analysis of Acetone Extract of *Marchantia***" under my guidance and supervision. The candidate has put in the required period of attendance in the department.

I recommended this report for submission toward partial fulfilment of the degree of Master of Science.

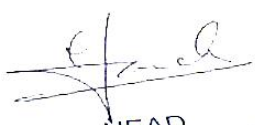
Date: 30.06.2024

P. Joshi 10/6/24
Dr. Penny Joshi

Department of Chemistry

DSB Campus, Kumaun University,

Nainital


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DEPARTMENT OF CHEMISTRY
KUMAUN UNIVERSITY NAINITAL