

**HYDROTHERMAL SYNTHESIS AND CHARACTERIZATION OF
NICKEL DOPED INDIUM OXIDE**

RESEARCH PROJECT SUBMITTED TO

SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE



FOR THE DEGREE OF

MASTER OF SCIENCE

IN

ORGANIC CHEMISTRY

UNDER THE FACULTY OF SCIENCE

BY

MISS. PRATIKSHA SOPAN AVHAD

UNDER THE GUIDANCE OF

MR. JAGDISH GHOTEKAR SIR

DEPARTMENT OF CHEMISTRY

**G.M.D. ARTS, B.W. COMMERCE AND SCIENCE COLLEGE, SINNAR
422103**

OCT/NOV 2024-2025



Maratha Vidya Prasarak Samaj's

G.M.D. ARTS, B.W. COMMERCE AND SCIENCE COLLEGE,
SINNAR, DIST- NASHIK

DEPARTMENT OF CHEMISTRY

This is to certify that the work incorporated in the project entitled

Topic name: Hydrothermal Synthesis and Characterization of Nickle doped Indium oxide $\text{Ni}(\text{In}_2\text{O}_3)$.

Was satisfactorily carried out by **Miss. Pratiksha Sopan Avhad** of **M.Sc. Organic Chemistry**. She has completed this project under my supervision and guidance during **Academic Year 2024 -2025**. This project work submitted by his original and the scientific information obtain from other sources have been acknowledged.

Mr. Jagdish Ghotekar Sir

(Project Guide)



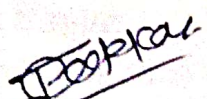
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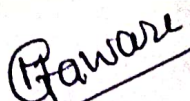
CERTIFICATE

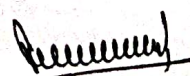
This is to certify that PG dissertation entitled Synthesis Hydrothermal Synthesis and Characterization of Nickel doped Indium Oxide submitted by **Miss. Pratiksha Sopan Avhad** and it was carried out by the candidate under the supervision of **Mr. Jagdish Ghotekar Sir.** She has successfully completed the project work in Organic Chemistry (CHO-607) during the Sem-III of academic year 2024-2025.

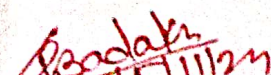
Date: 15/11/2024

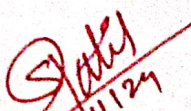
Place: Sinnar

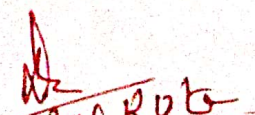

Mr. Jagdish Ghotekar
(Project Guide)


Prof. (Dr.) M. R. Gaware
HEAD
DEPARTMENT OF CHEMISTRY
G.M.D. Arts, B.W. Commerce
and Science College, Sinnar


Dr. P. V. Rasal
PRINCIPAL
G.M.D. Arts, B.W. Commerce and
Science College, Sinnar, Dist. Nashik


Internal Examiner

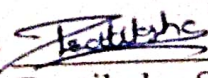

External Examiner


External Examiner

DECLARATION

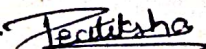
I hereby declare that the presented Research Project on Hydrothermal Synthesis and Characterization of Nickle doped Indium oxide $\text{Ni}(\text{In}_2\text{O}_3)$ is uniquely prepared by me at G.M.D. Arts, B.W. Commerce And Science College Sinnar under the guidance of Mr. Jagdish Ghotekar Sir.

Place: Sinnar
Date: 15/11/2024

Sign- 
Name-Pratiksha Sopan Avhad

ACKNOWLEDEMENT

- I would like to thank M.V.P. Samaj's G.M.D.Arts B.W.Commerce and Science College Sinnar for providing me the necessary resources, infrastructural , and facilities to carry out this project.
- I would like to thank our College Principal Dr. P. V. Rasal for constant support and providing infrastructural facility for this project work.
- I would like to thank, HOD Prof. Dr.M.R. Gaware for his constructive help during project.
- I would like to thank, Asst.Prof.Mr. Jagdish Ghotekar (Project Guide), for their constant encouragement, insightful constant encouragement guidance that helped me to navigate through the various challenges of this project.
- I would like to thank all the faculty members of the Department of Chemistry, for imparting me with the theoretical and practical knowledge necessary to complete this project.
- I would like to thank my classmate and colleagues, for their feedback suggestion and stimulating discussions that enriched my understanding of the subject matter.

Sign- 

Name- Avhad Pratiksha Sopan