

**SYNTHESIS AND CHARACTERIZATION OF COPPER DOPPED
INDIUM OXIDE (IN₂O₃) USING HYDROTHERMAL METHOD
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
MRS. JADHAV SONALI SHALIK
DEPARTMENT OF CHEMISTRY**

**UNDER THE GUIDANCE OF
ASST.PROF.MISS.ANKITA.RAYATE
DEPARTMENT OF CHEMISTRY**

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

**WORKPLACE
DEPARTMENT OF CHEMISTRY AND RESEARCH CENTER
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 incorrepted in the project entitled.

Topic name: Synthesis and Characterization of copper dopped indium oxide (In_2O_3)
using hydrothermal method.

Was satisfactorily carried out by **Mrs. Jadhav Sonali Shalik** of **M.S.C. 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.

Ankita

Asst.Prof. Miss.Ankita. Rayate
(Project Guide)



Maratha Vidya Prasarak Samaj's
G.M.D. ARTS, B.W. COMMERCE AND SCIENCE COLLEGE,
SINNAR, DIST- NASHIK
DEPARTMENT OF CHEMISTRY

CERTIFICATE

This is to certify that PG dissertation entitled synthesis and Characterization of copper dopped indium oxide (In_2O_3) using hydrothermal method. submitted by **Mrs. Jadhav Sonali Shalik** and it was carried out by the candidate under the supervision of **Miss. Ankita Rayate.Mam.** She has successfully completed the project work in Organic Chemistry (**CHO-607**) during the Sem-III of academic year 2024-2025.

Date: 14/11/2024

Place: Sinnar

Ankita
Miss. Ankita Rayate
(Project Guide)

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

[Signature]
Dr.P.V.Rasal
PRINCIPAL
(Principal)
G.M.D. Arts, B.W. Commerce and
Science College, Sinnar, Dist. Nashik

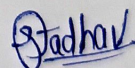
[Signature]
Internal Examiner
(Chemistry)

[Signature]
External Examiner

[Signature]
External Examiner

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. Miss Ankita Rayate.(Project Guide), for their constant Encouragement, insightful feedback , and expert 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- Jadhav Sonali Shalik