

## **DECLARATION**

This is my solemn assertion that the research findings embodied in this thesis entitled "Development of catalytic strategies for one-pot synthesis of acridine, xanthene and naphthoxazine derivatives using Brønsted-Lewis acidic systems" is the outcome of the work carried out completely by me during the period of Ph.D research undertaken under the guidance of Dr. Ruli Borah, Associate Professor in the Department of Chemical Sciences, Tezpur University, India. Due suggestions from others have also been included.

As per the general ethics of reporting scientific observations, the original sources of the information included have been adequately cited along with proper references and acknowledgements. I also declare that no misrepresentation or falsification of any idea/data has been done. I understand that any violation of the above will be taken for disciplinary action by the Institute.

Date: Place: Tezpur University

(Arup Kumar Dutta)



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## **<u>CERTIFICATE OF THE PRINCIPAL SUPERVISOR</u>**

This is to certify that the thesis entitled "Development of catalytic strategies for one-pot synthesis of acridine, xanthene and naphthoxazine derivatives using Brønsted-Lewis acidic systems" submitted to the School of Sciences, Tezpur University in partial fulfillment for the award of the degree of Doctor of Philosophy in Chemical Sciences is a record of research work carried out by Mr. Arup Kumar Dutta under my supervision and guidance.

All helps received from various sources have been duly acknowledged. No part of this thesis has been submitted elsewhere for award of any degree.

Date: Place: Tezpur University (**Ruli Borah**) Associate Professor School of Sciences Department of Chemical Sciences Tezpur University



## CERTIFICATE OF THE EXTERNAL EXAMINER AND ODEC

This is to certify that the thesis entitled "Development of catalytic strategies for one-pot synthesis of acridine, xanthene and naphthoxazine derivatives using Brønsted-Lewis acidic systems" submitted by Mr. Arup Kumar Dutta to Tezpur University in the Department of Chemical Sciences under the School of Sciences in partial fulfillment for the award of the degree of Doctor of Philosophy in Chemical Sciences has been examined by us on \_\_\_\_\_\_ and found to be satisfactory.

The committee recommends for the award of the Degree of Doctor of Philosophy.

Signature of:

**Principal Supervisor** 

**External Examiner** 

Date:

Date: