

ACKNOWLEDGMENT

It is my greatest pleasure to express my gratitude to large numbers of people who have directly or indirectly influenced and encouraged me over the course of my studies and my life in general.

First of all, I would like to express my deep sense of gratitude and indebtedness to my research guide Professor Niranjan Karak, Department of Chemical Sciences, Tezpur University for his invaluable guidance, support, advice and a wonderful accompany throughout my Ph.D. work. His dedication towards research and indomitable spirit would ever remain as a source of inspiration for me.

I would also like to express my sincere gratitude and humble respect to my doctoral research committee members Prof. Ashok Kumar and Dr. A.J. Thakur for their timely help and advises.

It is my pleasant duty to acknowledge with thanks the cooperation and support extended to me by the authority of Tezpur University and entire community of the Department of Chemical Sciences, for allowing me to use the administrative and technical facilities required for my research work.

It is my greatest pleasure to acknowledge the present and former Heads of the Department, Prof. R.C. Deka and Prof. N. Karak for giving me the opportunity to work on my topic and valuable advises throughout my stay at Tezpur University.

I am immensely grateful to Prof. N. S. Islam, Prof. S. K. Dolui, Prof. T.K. Maji, Prof. R. K. Dutta, Prof. R. C. Deka, Prof. A. K. Phukan, Prof. A. J. Thakur, Dr. R. Bora, Dr. P. Puzari, Dr. P. Bharali, Dr. N. M. Gogoi, Dr. K. K. Bania, Dr. S. K. Das, Dr. S. Pratihar, Dr. B. K. Sharma and Dr. U. Borah, faculty members of Department of Chemical Sciences, Tezpur University for their valuable suggestions and advices.

I extend my gratitude to Mr. Prasanta Kumar Raul, Defence Research Laboratory, Tezpur for his cooperation during the course of my Ph.D. works.

My heartfelt thanks go to my senior lab-mates Dr. Buddhadeb Roy, Dr. Gautam Das, Dr. Rocktotpal Konwarh, Dr. Hemjyoti Kalita, Dr. Sujata Pramanik, Dr. Beauty Das, Dr. Shaswat Barua, Dr. Harsha S. N. and Dr. Vijay K. Das for their manifold help and active cooperation. I would also like to thank my group members Bibekananda De, Satyabrat Gogoi, Purnima Baruah, Rituparna Duarah and Deepshikha Hazarika for their constant inspiration and help during my Ph.D. work.

I would like to offer my sincere thanks to Dr. Biren Gohain, Mr. Nipu Dutta, Mr. Raju K. Borah, Mr. Sankur Phukan, Mr. Rajen Borah, Mr. Biraj Borah, Mr. Arup Chakrabarty, Mr. Manaranjan Sarma and Mr. Ratan Baruah for instrumental and experimental helps. NEHU Shillong, IIT Guwahati and NCL Pune are highly acknowledged for their help in analyzing and testing works.

I would like to thank also the office staffs of Department of Chemical Sciences, Tezpur University, Ms. Babita Das, Mr. Hemanta Gogoi and Mr. Bubul Das for their kind help during my Ph.D. work. I

Acknowledgment

wish to thank all my friends and research scholars of Tezpur University and other institutes for their help and support during the course of my work,

I would like to appreciate Dr. Saptarshi Dhibar, Dr. Pawan Chetri, Mr. Prasanna Mandal, Mr. Paragjyoti Chutia, Mr. Pankaj Gogoi, Mr. Prasanta Baishya, Mr. Pankaj Kumar, Mr. Subhasish Banerjee, Ms. Sandhyarani Gogoi, Ms. Sweety Gogoi, Ms. Somadrita Deb, Ms. Rekha Dutta, Mr. Sudipta Mandal, Mr. Biplab Ghosh and Mr. Sujit Mahato for their help and suggestions. I am also grateful to DST, India and CSIR, India for financial support.

I take this opportunity to express my sincere gratitude to Mrs. Susmita Karak for her great affection, which I continue to enjoy during my stay at Tezpur University. Finally, I owe heartfelt gratitude to my parents, elder brother and sister-in-law for their blessings, support and constant inspiration. I am thankful to all my relatives and well-wisher for their encouragement. The endless love of them will always be in my heart that will inspire me in every step of my future life.

Place: Tezpur University, Tezpur

Date:

Suman Thakur
(Suman Thakur)