Acknowledgement

First and foremost, I would like to thank Almighty ALLAH (the most gracious and merciful) and his messenger Muhammad (peace be upon him) for enormous blessings upon me.

It gives me great pleasure to express my deep sense of esteem and gratitude to my research guide. Dr. R. N. Jadeja, for his inspiring guidance, never diminishing encouragement, support and his complete dedication during the progress of my work. Working with him was a great pleasure and learning experience.

I am extremely thankful to Prof. Anjali Patel, Head, Department of Chemistry, The M. S. University of Baroda, Prof. N.D. Kulkarni, Former Head, Department of Chemistry, The M S University of Baroda, for providing me infrastructure and instrumental facilities.

I would like to express my sincere thanks to Prof. Rajesh Patel and his student Dr. Vishal Mevada from Department of Bioscience, VNSGU, Surat, for in silico and in vitro antimalarial study. I would like to thanks Prof. R. V. Devkar and his student Mr. Aliasgar Vohra from Department of Zoology, The M S University of Baroda, for anticancer study. I would like to thanks SAIF, IIT Bombay, for CHN analysis.

I would like to acknowledge DST-PURSE and DST-FIST funded single crystal X-ray diffractometer and 400 MHz NMR facilities at the Maharaja Sayajirao University, Baroda.

I gratefully acknowledge the teaching staff of Department of Chemistry Prof. S. R. Shah, Prof. A. K. Prajapati, Prof. A. V. Bedekar, Prof. P. Sudhakar, Prof. S. Baran, Dr. V. K. Singh, Dr. S. I. Thakor, Dr. A. A. Ajmeri, Dr. A. L. Patel and Dr. Divyesh Patel for their kind support.

I would like to thanks the office staff of the department, especially Mr. K. J. Rane, Ms. Revathi Ganesh, Mr. Kalpeshbhai, Dineshbhai and all others non-teaching staff of the department for extending basic help for my research.

I would like to thanks my labmate and friend Mr. Kiran Nakum for all kind of support and always being there whenever I needed help.

I am extremely thankful to research lab colleagues, Mr. Kiran Nakum, Mr. Abhay Kumar, Dr. Vinay Kadam, Dr. Viraj Bhanvadia, Dr. Heta Patel, Ms. Krisha Shah and Mr. Prerak Patel for a friendly environment, encouragement, help and support. I would like to thank my

departmental colleagues and friends Dr. Aditya Khanvinkar, Dr. Gaurav Upadhyay, Dr. Kanu Kataria, Dr. Rina Soni, Dr. Sunil Dutt, Dr. Mehul Sadhu, Ms. RIdhdhi Gupta, Ms. Blessy Rajan, Ms. Mayuri Shaiwale, Ms, Varsha Bhardwaj, Ms. Neetu Patel, Ms. Monika, Ms. Bindi, Ms. Neelam, Mr. Rahul Bhatt, Mr. Aditya Puranik, Ms. Priyanka Salunke, Mr. Rajesh, Ms. Priyanka, Ms. Dhruvi, Mr. Pratik, Mr. Jay, Mr. Himanshu, Mr. Rajdeep, Ms. Manita, Ms. Naznin, Ms. Khushbu, Ms. Sadika, Ms. Shaily, Ms. Komal and all other research students of the department for their generous help and cooperation. It needs a special mention for my friends Mr. Ajay Patel, Mr. Anish Patel, Mr. Hiten Raval, Mr. Chirag Savani and Mr. Ketan Maru being a constant source of inspiration, help and support.

I would like to thanks my hostel friends Mr. Ajay Patel, Mr. Hiten Raval, Mr. Ketan Maru, Mr. Dikin Patel, Mr. Kaushal Chaudhari, Mr. Hemil Patel and all hosteller who filled my hostel life with pleasant moments and memories.

I would like to acknowledge all the teachers I learnt from since my childhood, I would not have been here without their guidance, blessing and support.

Last but not the least, It is my privilege to thank my support system my parents Mr. Usmanbhai Shaikh and Mrs. Najmabibi Shaikh for providing me selfless love, care, sacrifice, constant encouragement and support. I would like to thanks my all friends and family who are always there whenever I needed help and support.

Mr. Irfan Shaikh