ACKNOWLEDGEMENTS

I am greatly indebted to my thesis supervisor Prof. V. Lakshminarayanan for his valuable and inspiring guidance throughout my research work. There are no adequate words to explain his keen interest, constant help and thought provoking discussions that I had with him during this time. I am grateful to him for revealing me the richness of electrochemistry. It was a valuable experience to work with and learn so many things from him both as a scientist and as a human being. It has been a great pleasure and I really enjoyed working with him.

I would like to express my gratitude to Prof. N. Kumar, for his keen interest in my research work and many valuable discussions that I had with him. I also thank Prof. K.A. Suresh, for many discussions and being a constant source of encouragement throughout my research.

I thank Dr. Sandeep Kumar, Dr. V.A. Raghunathan, Dr. R. Pratibha, Dr. D. Vijayaraghavan and Dr. Reji Philip, for their help in my experimental work and many valuable discussions.

I would like to acknowledge with thanks Prof. A.K. Shukla for providing me an opportunity to work in Central Electrochemical Research Institute (CECRI), Karaikudi and to interact with many researchers that helped me to widen my scientific knowledge over a variety of subjects. I am very much thankful to him for his help in providing me all the facilities during my stay over there.

I would like to thank Prof. S. Sampath of Indian Institute of Science (IISc), Bangalore, Dr. S. Pitchumani and Dr. N.G. Renganathan, of CECRI, Karaikudi for their help, suggestions and discussions in some of my experimental work.
I would like to thank Mr. N. Ravi Sankar, for his valuable help in ensuring the availability of chemicals for my experiments. My thanks are also due to Mr. A. Dhason, our glass blower for his skilled assistance and significant help in fabricating electrochemical cells and various other electrodes including that of microelectrodes for carrying out my experimental work; Mr. H. Subramonyam Ram for preparing the evaporated gold samples; Mr. Mani for constructing the electrodes and various accessories for the experimental set up and Mrs. K.N. Vasudha for her help in spectroscopic measurements. I also acknowledge with thanks the help of Mr. Raju in taking some of the photographs of my experiments and our secretary Mr. K. Radhakrishna for his valuable and timely help throughout my research work.

It is a pleasure to thank my friend Mr. M. Jeyadevaiah, for his invaluable help in STM measurements; Mr. Sajal Kumar Ghosh for his help in X-ray measurements and Mr. Santanu Kumar Pal for his help in the synthesis of some of the compounds used for SAM formation.

The library staffs of RRI have provided me an excellent, significant and timely help during my research. It is a pleasure to thank all of them.

I would like to thank various other departments of RRI and the Administration, Computer section, Accounts, Workshop, Transport, Canteen and Clinic for their constant support throughout my research.

I thank all my friends and research colleagues in RRI who have really made my stay an enjoyable experience.

I thank my seniors Subbu and Ujjal for their help and suggestions during the early stage of my research work. I am enriched by many useful discussions both about science and life with my lab-mates Mohanapriya, Suresh, Nagaraju, Rakesh and Manojkumar. I have always enjoyed their presence in the lab during my research work. I also would like to thank Ms. Umadevi, for many useful discussions and constant encouragement throughout my research work.
I would like to thank all my lab-mates and research colleagues in CECRI, for their help and encouragement.

Finally, I would like to thank my beloved parents, my sister and my brother for being a constant source of encouragement, support and help throughout my research work. I have been greatly benefited by their valuable suggestions and thought provoking advices.