Acknowledgements

Acknowledgements

I am very grateful to many people who worked with me during my German life at the Fritz-Haber-Institut der Max-Planck-Gesellschaft as a doctoral student.

First of all, I would like to express my heartfelt gratitude to my advisor Professor Dr. Gerhard Ertl for his academic advice, constant encouragement and financial support during my graduate school years at Fritz-Haber-Institut der Max-Planck-Gesellschaft. I would also like to thank Dr. Markus Eiswirth for his special teaching to do independent research, for valuable extensive discussions and kind guidance during this research. I am also grateful to Professor Dr. H. Baumgärtel for being my second advisor.

Special thanks to Johannes Christoph for his help with the computer simulations and the nice introduction to theoretical understanding, Christian Eickes for the measurement of impedance spectroscopy and his friendship, Peter Strasser for the initial experimental introduction and his continuous private attention and Noh Taegeun for his helpful experimental support and friendship.

I am extremely indebted to Prof. Tak Yongsug, Prof. Chung Sung Taek, Dr. Shivaprasad and his family for their continuous moral support. Many friends in Korea have given me lots of care and support in these years, despite the geographical separation. I would like to thank Choi Jae Kwang who sent me numerous books and music from Korea to help me alleviate my homesickness. My gratitude extends to Uhm Sung Hyun, Choi Jinsub, Park Young-Geun and Kim Jong Min, whose unfailing support from Korea and companionship through letters and e-mails have helped me to go through various hardships in these years.

Many people from FHI der MPG have made my life at the FHI full of joys. Without them, my graduate school would have been just lonely nights and mere academic work. They have also given me tremendous help during the past 3 years, and I

would like to share my pride with all of them. I would like to specially thank my German mom Ingeborg Reinhardt and Sabine Wasle. I thank my Korean friends at the FHI, Kim Sang Hoon, Lee Seung Mi and Kim Young Dok (now Texas A&M) for mental support and comments on my work.

Most importantly, I am extremely grateful to my Mom and Dad, who have made it possible to give my two younger sisters and me the best education. Their unreserved love and support for these many years is what makes this Ph.D. degree valuable. For this, I believe they deserve this degree more than anyone else. I am also very grateful to my two younger sisters Jae Sook and Eun Jung, who have given care and support to our parents while I was studying and writing this dissertation far away from home.

Finally, I am grateful to Jung Hwa who has shown me her true love with an always wonderful smile. Also I must thank Jung Hwa for her unselfish backup, attentive care and unfailing understanding.

Partial financial support by the Deutsche Forschungsgemeinschaft (DFG) through Sfb 555 is gratefully acknowledged. I am full of gratitude to the Max-Planck-Gesellschaft (MPG) for the Ph.D. fellowship.

To be continued...

아직 끝나지 않은 이야기...