**Proposed Program: Polymer Chemistry and Organic Chemistry**

June 12, 2002 was a very memorable day for me in my life - I successfully passed the oral defense of my thesis. My thesis was highly praised unanimously by all of the specialists on the oral defense committee and I was awarded the highest score of 95 (out of 100) for its novel experiment designs and convincing experiment conclusions.

My graduate thesis addresses Atom Transfer Radical Suspension Polymerization of Methacrylic Acid Ester. Since it was first reported in 1995, the techniques of Atom Transfer Radical Polymerization (ATRP) have attracted the attention of specialists from all over the world. Today, further research focuses mainly on Bulk Polymerization and Emulsion Polymerization rather than Suspension Polymerization. All of the experiments with Suspension Polymerization are limited to sealed tubes without external stirs, which are not typical examples of Suspension Polymerization, to be exact. My thesis sought the best conditions for Suspension Polymerization of ATRP with external stirs, such as the conditions for scattering, in order to continue research on the dynamics of Suspension Polymerization after finding out the most suitable temperature of ATRP. After consulting abundant reference material and repeating numerous experiments, I finally successfully acquired the best experimental conditions for ATRP and thus proved that Suspension Polymerization of ATRP is workable with external stirs. Additionally, I found that under certain conditions, polymerization has various advantages such as a faster speed, high molecular weight and narrow in distribution of molecular weight, all of which are rather important as reference material for improving Suspension Polymerization currently applied in actual industrious production.

I believe that all of my graduate thesis research achievements arise from my assiduous and persevering study for four years in the university. As Edison's famous saying goes, 99% perspiration and 1% inspiration is involved in making a genius. My diligence in study is due to my strong interest in Chemistry, which derived from my innate curiosity for nature and my surroundings during my childhood. As I grew up, I enjoyed collecting animals and plant specimens and in visiting the Natural Museum. In high school, I was really enthusiastic about Chemistry, which led to my final choice of studying in the Chemistry Department in the university.

My choice proved absolutely right after four years of study in my university. With an unrestrained passion for Chemistry, I completely devoted my attention to ardently studying all of the compulsory courses such as the courses of Organic Chemistry, Physical Chemistry, etc. In learning the courses, I focused my attention not only on mastering the knowledge but also on bringing up numerous questions. As the celebrated Chinese-American physicist, Li Zhengdao said, "The art of learning lies in questioning." With these questions, I consulted my teachers in order to obtain a deeper understanding of the knowledge in my textbooks. For unsolved questions, I continued to search for the answers in the library or on the Internet to collect as much as material as I could on a chosen subject. Thus I not only constructed a complete understanding of the knowledge in the textbooks, but I also grasped the most advanced knowledge and the direction of the development of Chemistry. Moreover, as I continue on in my studies, I found that they are growing more and more enjoyable for me.

Chemistry is a course full of experiments. While learning chemical theories, I cultivate my ability in conducting experiments. Before each experiment, I will always think out carefully the experiment design, the suitability of the experiment methods and the expected results. In the process of conducting experiments, I analyze every detail of deviation. For those unexpected results that happen in experiments, I manage to offer a reasonable explanation after thorough consideration. By virtue of well-organized preparation and a complete devotion to experiments, I often top the list with my high scores in experiments.

In order to enlarge my knowledge of Chemistry, I attend many university lectures actively related to my major, including speeches given by world-known chemists. I am greatly enlightened by listening to them face-to-face and find myself always inspired by their unique and sensitive scientific thinking. Furthermore, I often volunteer to take part in various social practice activities, such as visiting and practicing in chemistry factories, which enriches my practical experience of employing chemistry theory in actual production.

Because I have completed a course in Retrieval and Use of Chemical Literature, I know much about Chemical Abstracts. In consulting reference material for my gradation thesis, I became familiar with numerous journals, such as Macromolecules, Polymers, Inorganic Chemistry and so on. I benefit greatly from reading Nature and Science in my spare time in improving my English. Because of my ceaseless efforts, my intensive interest in Chemistry and extra attention focused on learning skills, I have made considerable achievements in my studies. For four years, I have been chosen into the national chemistry-based class. Additionally, I have been awarded the scholarship of the university for three consecutive years and was given the honorable title of the “Student of Excellence”.

Today, I am about to leave the beautiful campus of Tiajin University and end my four-year pursuit of knowledge here. I am clearly aware that the achievements I have made are only the beginning. My dream of science is just now in becoming a reality for me. The ancient subject of Chemistry is currently undergoing the most exciting changes in its history. Many branches of Chemistry, such as Polymer Chemistry and Organic Chemistry are consistently exploring new research fields in concert with other subjects such as Biology, Material Science, etc. At the same time, Chemistry is facing new challenges from various aspects. The heat-resistant polymer material, which embodies high strength and other special functions, and the biological active polymer material, which is widely used in biomedicine, are becoming the frontal research domain of Polymer Chemistry and Organic Chemistry. The research and production of pollution-free polymer has attracted the attention of the world for its contribution to environmental protection

All of these exciting developments and challenges are amazing for me and continuously encourage me to knock upon the door of another science world on the other side of the ocean with hopes and expectations of continuing my dream there. The University of # # # enjoys a worldwide reputation for its scientific research level in modern chemistry, especially in Polymer Chemistry, Organic Chemistry etc. I am eager to sustain my interest in Chemistry through studying at your university, while I firmly believe that I can make even greater achievements on Polymer Chemistry and Organic Chemistry as well.

The University of Pennsylvania comes on top of my priorities. In my prospective program, I would like to focus on Industrial Organizational Behavior and Public Finance in the field of Applied Economics. The Economics Department of the University of Pennsylvania enjoys a very high academic reputation in the United States and it has many cooperative projects with Wharton Business School. Many senior professors teach at both the Economics Department and the Business School and they undertake research in some top research institutions of the country. Such an education system allows its prospective students to practice what they learn in class and, personally speaking, it agrees very well with my expectations for your Ph. D. program. At the University of Pennsylvania, I hope to learn the most advanced theories of economics on one hand and acquire useful problem-solving skills on the other. After completing your Ph.D. program, I will come back to China to work as a professor of economics or as a researcher at some economics research institutions, with emphasis on the study of industrial structure and public financial policies. In this way, I can contribute to the economic transformation of China’s fledgling market economy.

I hope that you will seriously consider my application because I have a very solid foundation in mathematics and economics, good personal qualities and rich work experience, all of which make me confident about my future degree program. I am aware that the future will be full of challenges but as an aspiring young man I believe that confronting those challenges will be the best part of my future trainings.