**Personal Statement**

God helps those who help themselves. The capacity of everyone is perhaps but limited. But to become a strong man in actual life, one must grasp one's own destiny. Recalling the span of my past 25 years, I have always maintained a healthy and aggressive outlook and a strong sense of mission for the realization of the value of my life. The image of dauntless and strong-willed men in the writings of both Mark Twain and Ernest Heminway instills in me incessant inspirations, filling me with joy from my embattled life and enabling me to cherish an optimistic attitude.

I come from a small remote county township in West China's Guizhou Province, the most underdeveloped area in China. When only 15, I attended a key provincial high school some 200 kilometers away from my hometown, returning to my home only twice a year during vacations. An independent livelihood at so young an age, together with my family financial stress, subjected me to a very hard life. It made me realize that I had no other alternative but to take care of my own self. It also made me determined to change my fate by my own efforts. After graduating from high school, I managed to enter a university in Beijing with prominent performance at the National College Entrance Examination. In the first term after entering the university, I had a poor ranking in the whole class, as is often the case with students from economically underdeveloped regions in China. But I worked many times harder than my classmates and managed to catch up with them in only one academic year and ranked amidst the top five in the whole class. In the fierce competition, I kept my winning record and scored scholarships many times. In my studies, I kept tapping my potential. Hence, when I took entrance examinations for graduate studies, I achieved the rare high mark (393 / 500), ranking first among all examinees. I was not the most intelligent postgraduate student in my class, but I was the most hardworking one. Whatever courses I made up my mind to study and whatever laboratory experiments I resolved to conduct, I would finish them with best results.

My undergraduate specialty was high polymer materials and engineering. I have loved science in general and natural science in particular. I would be in an ecstasy of joy at the very thought of any polymer material lighter but stronger than steel. Since I started to receive formal education in my major, I have come to develop a more professional understanding of the widespread utilization of polymer materials. From international data and Internet sources, I became acquainted with the tremendous innovation and rapid advancement of polymer materials science in the past decades. In this way, I developed the conviction that the 21st century would be a century of materials science, and a century of information and biotechnology, and that polymer is an area worthy my lifelong dedication. Through relentless efforts and practices, I deepened my exploration in my area of specialization.

My graduation thesis deals with the silicon alkyl cross-connection PE because the material promised a good prospect of application in the transmission of hot water and other fluids. China's domestic technologies are very backward as compared with the mature ones abroad. Therefore, I choose to focus my research on the control of graft rate and on the degree of cross-connection in the process of production, setting a very high standard on the formula development and on screening technology. Through experiments, I have formed a clear picture of the general guidelines in designing a particular scientific research. After going through the whole process of surveying, project designing, experimentation, performance test and final data analysis, I significantly enhanced my hands-on abilities.

During my graduate studies, I took part in the PVC research project in an effort to modify the stiff wollastonite particles of grammite, and make it more elastic. The principle involved was to cover a layer of PMMA (to be verified by infrared IR analysis) on the surface of wollasstonite with the humidification method, and then to fill the fiber-shaped, particular and three-dimensional particles (to be verified by polarized light microscope observation) into a rigid PVC mixture. In the course of consulting technical literature, I discovered that our predecessors had mostly applied coupling agents to improve the compatibility of grammites and PVC, achieving but unremarkable results. Thereupon, I proposed to fill up once again the grammite surface with more compatible MMA. As it was something unprecedented, we did a lot of research work, especially in the selection of catalysts. Finally, when there appeared in the infrared spectrum the characteristic peak indicating the PMMA existence, we all wept in ecstasy. The eventual findings in the experiment brought home to us that we should never be confined by our predecessors' ideas in any scientific undertaking. It is also very important to adhere to one's own ideas.

My present thesis for my Master's Program is a study on a heated subject. The thesis deals with starch-based biological degradation materials, with special emphasis on selecting the appropriate plastic additive to change the starch structure and make it alloy with PE and PS under the effect of compatible agents after becoming thermoplastic. So far I have finished the preparation for thermoplastic starch. X ray examination shows the deconstruction of the crystal starch structure and starch degradation has been basically solved. The mixed membrane of starch and PE meets the requirements. Preparation is underway for cooperation with a factory for large-scale production. But how to increase starch content remains to be explored. For this purpose, my advisor and I are now endeavoring to secure a research fund from the Beijing Municipal Natural Sciences Foundation. This separate study is entitled Research on the Reactive Blending and Extrusion of CL and Starch, which aims to make a breakthrough in the field of complete biological degradation and development of new medical materials.

In undertaking this project, I availed myself of a large amount of highly valuable and most updated technical literature from the China National Library, the China Institute of Science and Technology Information, China Patent Bureau and the Internet. A scrutiny of those technical literature has made me realize that the United States is leading the world on this subject. The American and German sources that I have consulted show that major research institutions, universities and corporations in the world are now shifting their focus to the complete degradation of starch bases, such as PVA, polylactic acid, polyester and polyster acid amides. Unfortunately, in our country, we are still studying the outdated PE-PS alloying. Even prestigious universities in China like Tianjin University and Fudan University are on a backward level compared with their international counterparts. The gap is deplorably wide. In order to be in the advanced position in scientific research, I believe the pursuit of an advanced degree program abroad is perhaps the only way and the best way to fulfill my aspirations. I am determined to take up these research subjects in a prestigious research institution in the United States instead of trailing behind others all the time. For this purpose, I intend to focus my prospective degree program on the following major areas: (1) functional polymer; (2) polymer processing, rheology; (3) polymer blending; (4) structural relationship of polymer.

I believe I have established a relatively solid foundation for seeking further studies in the field of polymer materials with my background of seven-year specialized education and training. Furthermore, with my practical strength and pioneering spirit, with my firm stamina and fruitful research results, I am sure I will complete my studies in the United States with good quality. It won't be a plain sailing, but I am fully prepared.