

Department of Chemistry

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Rob de Ruyter van Steveninck,
Chair, Biocomplexity Search Committee
Department of Physics
Indiana University
Swain West 165
Bloomington, IN 47405-7105

Dear Professor Steveninck,

I am pleased to offer this letter of recommendation on the behalf of Dr. Byung-II Kim. Byung-II was a postdoc in my group for about two and a half years. He was a vital part of the research group and contributed in many ways.

During his time at the University of Houston, Byung-II made significant progress on three different projects. First, he spearheaded a portion of a tribology program in which we measured interfacial friction with AFM in a UHV environment as a function of chemical modification. His first paper on this project appeared in *Surface Science* and demonstrates the care and thoroughness that he brings to his work. While there were a number of contributors to the project, Byung-II truly was the leader and worked to interface between all of the group members in developing a fundamental understanding of the processes taking place. Some of the most significant conclusions came as a result of the insight Byung-II's data analysis provided. This project laid the groundwork for subsequent studies as well. Second, Byung-II worked on a project which involved studying with UHV-STM the adsorption and growth properties of liquid crystal type molecules on Pd(111). These studies revealed evidence for chiral adsorption structures and the opportunity to tailor film structures through control of the interfacial electronic structure. The results of these studies also appeared in *Surface Science*. Finally, Byung-II worked on a noncontact UHV-AFM project designed to enhance our imaging capability of single crystal carbides. In this project, Byung-II built from scratch a new set of feedback electronics and made some initial measurements. While the electronics passed their initial tests in terms of noise and performance, the carbide samples remain a challenge and we have needed to move on to other project goals. In addition to all this, Byung-II was always willing to help in small collaborative projects with other groups on campus, mainly involving the characterization of thin films with ambient AFM.

In terms of his aptitude, I should mention that Byung-Il joined the group with no experience in UHV technology or STM. While he did not had a tremendous amount of experience with trouble shooting vacuum problems, he is now capable of carefully maintaining and operating this type of equipment. In addition, I am convinced from his recent STM data that he is now quite proficient in this technique as well.

Byung-Il is a dedicated worker who is committed to reaching careful and fundamental conclusions regarding his work. His strengths lie in the areas of experimental skill, electronics, and data analysis. Byung-Il showed significant progress in his language skills during the time in my group, but said himself that he would like to improve in this area. His efforts to present his work at meetings certainly reflected his willingness to improve in this area.

Together, the professional approach he brings to his work and his willingness to learn new areas of science qualify Byung-Il as a serious candidate. I would be happy to discuss the matter in more detail or answer any additional questions regarding my comments in this letter. Please let me know how I can be of help.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Scott S. Perry". The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline.

Scott S. Perry