ANEXO 3

Avaliação do Prof. Dr. Bruce Grindley (orientador no exterior) referentes as atividades realizadas no Departamento de Química da Dalhousie University.
To whom it may concern,

Alan Guilherme Gonçalves spent one year doing research in my laboratory as part of his PhD program at the Federal University of Paraná, in Curitiba, Brazil. He arrived in Halifax on January 7, 2004 and will leave on December 22, 2004. He was supported by a scholarship from the Brazilian Research Agency, the Conselho Nacional de Desenvolvimento Científico e Tecnológico.

Mr. Gonçalves's undergraduate training was as a biochemist. He had been working to develop antiviral compounds based on sulfated oligosaccharides. For studying literature reports, he realized that adding lipid components to these oligosaccharides would make them more effective. He realized that the only way this could be done regioselectively was by means of the organotin intermediates that had been studied extensively in my laboratory. He then arranged to spend the year in my laboratory by being awarded a Brazilian scholarship.

When he came to my laboratory, he had no experience in non-aqueous chemistry, let alone experience with moisture sensitive compounds. He quickly learned to operate effectively in non-aqueous media and developed conditions under which long chain ethers could be introduced regioselectively via organotin intermediates. He also quickly became a competent operator of our new Avance 500 NMR spectrometer. At the same time as he was developing the methodology for ether synthesis, he studied the intermediates in these reactions using multinuclear (1H, 119Sn, 31P, 19F, 13C) NMR spectroscopy and showed that some long held assumptions about the structures of the intermediates present in solution were wrong. He then moved on to synthesize long chain ethers from disaccharides and tri saccharides regioselectively and also showed that sulfates could also be added regioselectively. We are in the process of writing up one paper on his work that will be sent to a major journal (JACS) and a second will also be written.

I have been very impressed by his initiative, drive, and intelligence in conceiving and setting up this project and in making it happen. These qualities are evident in the laboratory where he has made enormous progress in areas that were foreign to him. He has also been a mature influence in my laboratory that during this year contained some difficult personalities. Although English is not his first language, through the year he progressed from being barely understandable to being reasonably fluent. He has written both experimental and introductory sections of papers acceptably.
I have had seven students complete PhDs with me and another is just finishing. Some of these students were winners of major Canadian Scholarships. One is now the Director of Research at a pharmaceutical company in Montreal. I would rank Mr. Gonçalves with the best of these students in terms of initiative, productivity, and ability to get things done. He is clearly an outstanding student.

Yours sincerely,

[Signature]

T. B. Grindley,
Professor of Chemistry,
Dalhousie University