



Department of Chemistry & Biochemistry Seminar

Friday, January 29th, 2021

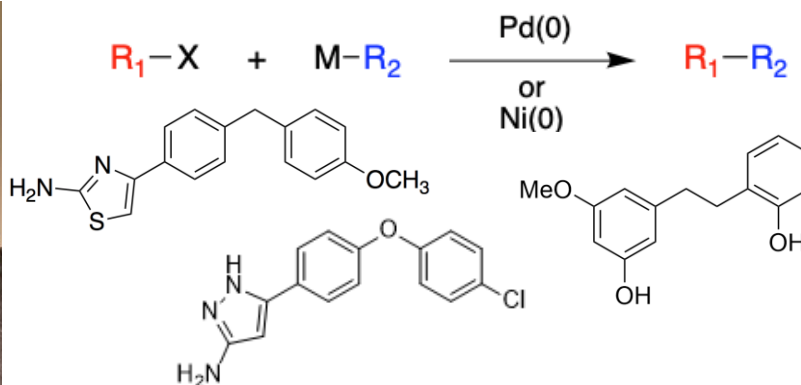
1:30pm – 2:45pm

Zoom ID: 9604520800

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Synthesis of Leukotriene A₄ Hydrolase (LTA₄H) Aminopeptidase (AP) Modulators Using Cross-Coupling Reactions

Speaker: *Greg Petruncio, George Mason University*



Abstract: Leukotriene A₄ Hydrolase (LTA₄H) is a zinc metalloenzyme that possesses both a proinflammatory epoxide hydrolase (EH) activity as well as an anti-inflammatory aminopeptidase (AP) activity. Thus, LTA₄H represents a biological target for the treatment of inflammatory diseases such as chronic obstructive pulmonary disease (COPD), cystic fibrosis, irritable bowel syndrome (IBS), etc. Past drug discovery efforts have focused on inhibition of the proinflammatory EH activity of LTA₄H through zinc chelating drugs. These zinc-chelating drugs failed to show beneficial effects in human clinical trials, giving rise to new sets of drugs that do not rely on zinc chelation. In this talk, I will mainly focus on the synthesis of small molecule LTA₄H AP activators, which have potential to be further developed into therapies for inflammatory diseases.

Biography: Greg earned his B.S. degree in chemistry at George Mason University (GMU) in Fall 2016. Since then, he has been pursuing his PhD under the guidance of Dr. Mikell Paige. His research interests include medicinal chemistry, synthetic methodology, and natural product synthesis. He is happily married to his beautiful wife, Alyson, and enjoys playing tennis and watching movies.