JENNIFER OBLIGACION

Associate Principal Scientist

Merck Small Molecule Process Research & Development

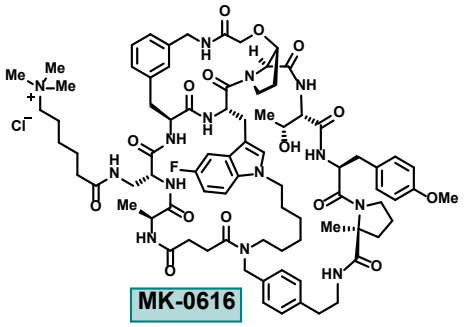
Thursday, March 26th

10:30 AM – 11:30 AM

Steele 006

"One Pot, Five Enzyme Cascade That Enables a Protecting Group Free Amidation and Reductive Amination to Access an Advanced Intermediate to MK 0616, The Largest Small Molecule Therapeutic."

Abstract: MK-0616 is an orally available macrocyclic peptide inhibitor of PCSK9 in development for the treatment of atherosclerotic cardiovascular disease. Its three fused macrocycles and high functional complexity make it extremely challenging to manufacture, with the first reported chemical route requiring 43 steps and delivered less than 1% overall yield. This talk will describe the development of a one-pot, five-enzyme cascade that enables protecting-group-free amidation and reductive amination to access an advanced intermediate en route to MK-0616, ultimately enabling its long-term manufacture.



Bio: Jennifer V. Obligacion (Ph.D. 2017) is an Associate Principal Scientist at Merck Small Molecule Process Research & Development focusing on the sustainable syntheses of pharmaceuticals and applying mechanistic tools to design safe and robust commercial processes. She received her Ph.D. in Organometallic Chemistry from Princeton University with Prof. Paul Chirik studying cobalt-catalyzed carbon-boron bond forming reactions**.**