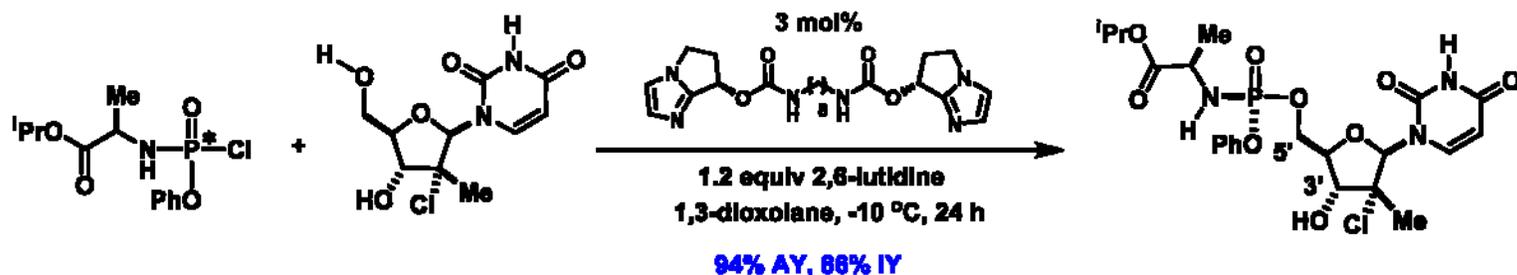


ORGANIC SEMINAR



Guest Speaker:
Dr. Rebecca Ruck
Merck Research Labs



Friday, September 15th, 9:00am
Hutchison Hall Room 473
University of Rochester

Using mechanistic tools to solve a phosphorus stereochemistry problem

Abstract: "Using Mechanistic Tools to Solve a Phosphorus Stereochemistry Challenge"

The catalytic stereoselective synthesis of compounds with chiral phosphorous centers remains an unsolved problem. State-of-the-art methods rely on resolution or stoichiometric chiral auxiliaries. Phosphoramidite prodrugs are a critical component of pronucleotide (ProTide) therapies used in the treatment of viral disease and cancer. We will describe the development of a catalytic stereoselective method for the installation of phosphorus-stereogenic phosphoramidites to nucleosides through a dynamic stereoselective process. Detailed mechanistic studies and computational modeling led to the rational design of a multifunctional catalyst that enables stereoselectivity as high as 99:1.

Host: Alison Frontier - Email: alison.frontier@rochester.edu