Copper-Catalyzed Coupling Reactions: Mechanism, Catalysis, and Applications in Life Sciences

Abstract: Owing to their many attractive characteristics, copper catalysts represent appealing alternatives to precious metal catalysts, although various limitations remain in copper-catalyzed cross-coupling reactions. Recently, we and others recognized that copper catalysis presents a powerful strategy to functionalize sp3 hybridized carbon radicals for the construction of carbon-carbon and carbon-heteroatom bonds. In this talk, I will discuss our group's recent efforts in understanding the mechanism of copper catalysis and developing new copper-catalyzed cross-coupling reactions.