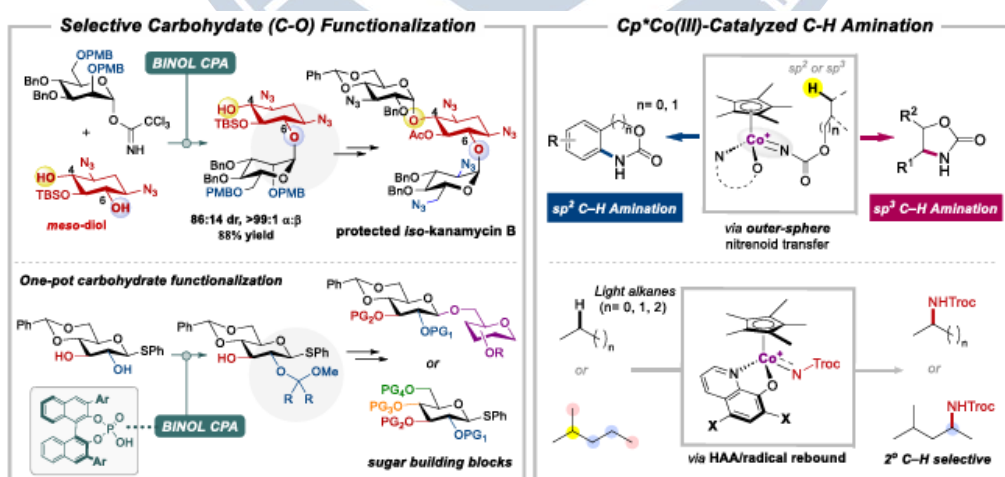


화학과 세미나

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Selective Catalysis for C–O Functionalization and C–H Amination

In the realm of catalysis, the dual aspects of selectivity and efficiency are of utmost importance in determining the success of various organic reactions. This presentation demonstrates the application of selective catalysis in two crucial areas of organic chemistry: C–O functionalization and C–H amination reactions. The first segment of the discussion focuses on the use of BINOL-derived chiral phosphoric acid (CPA) catalysts to promote regioselective carbohydrate functionalizations, resulting in the formation of valuable saccharide building blocks or drug derivatives with high precision. The second part highlights the versatile application of custom-designed CpCo(III)(LX) catalysts in a range of selective C–H amination reactions. These include intramolecular C–H (sp^2 and sp^3) amidation, site-selective intermolecular amidation, alkyl-migratory amidation, and amidative Diels Alder dimerization. Together, these findings underscore the exceptional selectivity and efficiency of BINOLCPA catalysts and CpCo(III) catalysts, providing effective solutions to challenging transformations in C–O bond functionalization and C–N bond formations, respectively.



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