A Tethering Strategy for the Synthesis of Vicinal Aminoalcohols

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Vicinal amino-alcohols are a common structural motif that can be found in a wide array of biologically active natural compounds, ligands, catalysts and chiral auxiliaries. Therefore, efficient methods for their synthesis are necessary. The use of removable tethers combined with Pd-catalyzed olefin functionalization has known intense developments in recent years and has proved to be an efficient strategy for the installation of new functionalities on an alkene in a 1,2 relationship. Recently, our group has introduced (hemi)aminal tethers derived from trifluoroacetaldehyde for the carboetherification and carboamination of allylic amines to give aminoalcohols and diamines. Herein, we would like to report the successful implementation of this strategy to allylic alcohols. The synthesis of a stable hemiaminal could be achieved, followed by a Pd-catalyzed carboamination that could install concomitantly a C-N bond and a highly valuable C-C bond. A wide variety of groups could be introduced to form functionalized oxazolidines that could then deliver the free amino alcohols under acidic hydrolysis.

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