SYNTHESIS OF VERSATILE SYNTHETIC INTERMEDIATES THROUGH COPPER CATALYSIS

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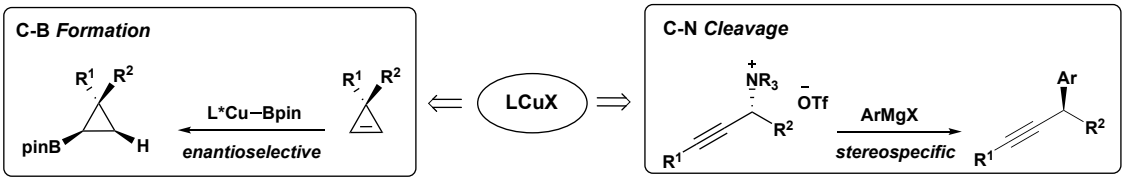
Metal catalysis is a powerful tool for the creation of stereocenters in organic molecules. Both, the use of a chiral catalyst or a chiral starting material, are valuable and complementary approaches to accomplish this goal. In our group, we have recently developed copper-catalyzed enantioselective and stereospecific transformations, in the context of carbon-boron bond formation and carbon-nitrogen bond cleavage. These methods have allow us to prepare a broad variety of useful synthetic intermediates such as 1,4-diols,[1] trisubstituted alkenes,[2] propargylic derivatives[3] and functionalized small rings.[4] Some of these transformations will be presented in this talk.



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1) Tortosa M. *Angew. Chem. Int. Ed.* **2011**, *50*, 3950.
2) Alfaro, R.; Parra, A.; Alemán, J.; García Ruano, J. L.; Tortosa, M. *J. Am. Chem. Soc.* **2012**, *134*, 15165.
3) Guisan-Ceinos, M.; Martin-Heras V.; Tortosa M. *J. Am. Chem. Soc*. **2017**, *139*, 8448.
4) Parra, A.; Amenós, L.; Guisan-Ceinos M.; López, A.; Garcia-Ruano, J. L.; Tortosa, M *J. Am. Chem. Soc*. **2014**, *136*, 15833.
5) Guisan-Ceinos, M.; Parra, A.; Martin-Heras V.; Tortosa M. *Angew. Chem. Int. Ed.* **2016**, *55*, 6969.