

New Methods for Carbon-Hydrogen Bond Functionalization

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In last few decades, carbon-hydrogen bond functionalization has matured from an academic curiosity in organometallic chemistry to widespread applications in synthesis of complex natural products and drugs.¹ Carbon-hydrogen bonds are the most abundant functionality in organic molecule and their use as a functional group for further conversions allows shortening of synthetic pathways. This saves reagents, solvents, and decreases labor costs. Since the amount of generated chemical waste is decreased, positive impact of this chemistry on environment is achieved. This talk will describe the ongoing work in our group that has led to the development of bidentate, monoanionic directing groups for carbon-hydrogen bond functionalization under palladium, cobalt, and copper catalysis. Furthermore, we will report on recent developments showing the use of copper(I)-sandwich complexes in non-directed sp^3 C-H bond functionalization which proceeds via carbene intermediates.²

REFERENCES

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