

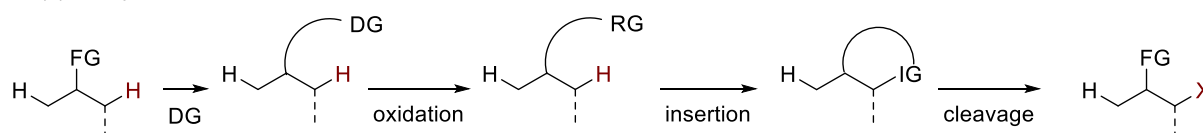
Directed C–H functionalization of bridged cycloalkanes

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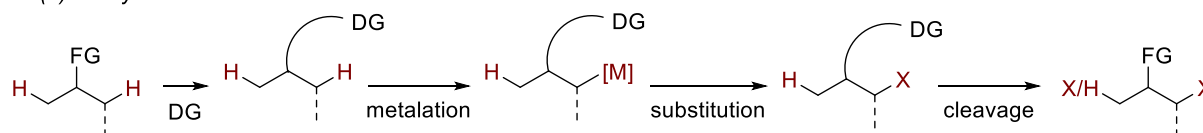
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Synthesis of 1,2-substituted bridged cycloalkanes from *mono*-substituted starting materials (alcohols, carboxylic acids) will be presented (Fig.1). This work focuses on substrates (Bredt like), which lack the C=C bond reactivity and require C–H bond functionalization to install the 1,2-substitution pattern. Directed C–H bond functionalization *via* Rh(II) catalyzed intramolecular insertion reactions (aminations),¹ C–H bond arylation² and acetoxylation reactions catalyzed by Pd(II) complexes³ and undirected oxidation reactions will be discussed. Mechanistic studies of these transformations were performed and refer about reactivity of such class of aliphatic compounds. New post-functionalization reactions⁴ and applications of obtained compounds in catalysis and drug development will be proposed.⁵

Rh(II) catalyzed insertion reactions



Pd(II) catalyzed C–H activations



substrates in focus

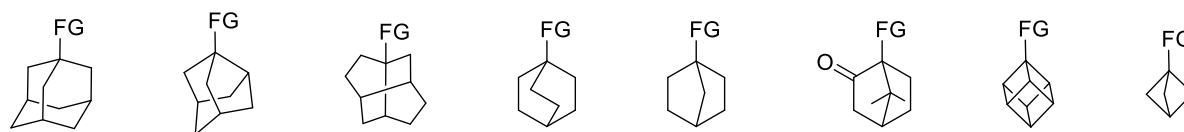


Figure 1. Directed C–H bond functionalization reactions leading to 1,2-substitution pattern

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