Carboamination of propargylic alcohols via *in situ* tether formation

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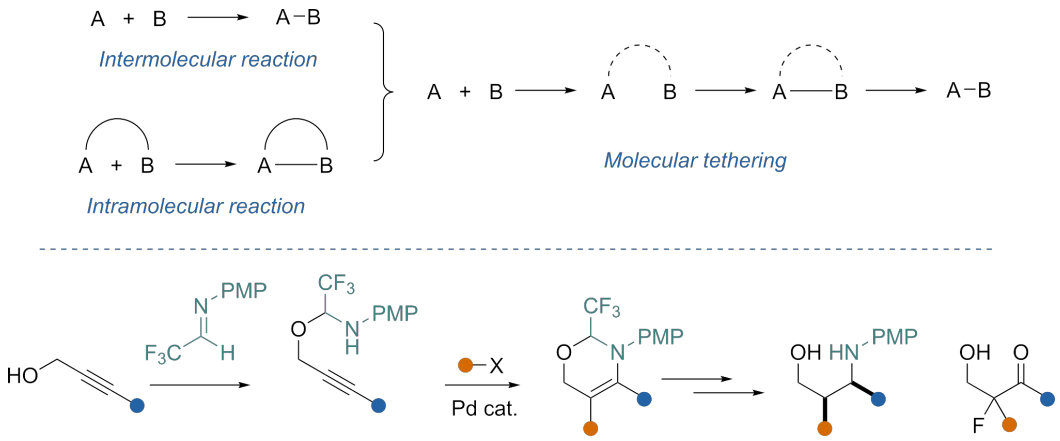
Reactivity and selectivity are fundamental aspects of organic chemistry that must be mastered to allow the design of more efficient and environmentally friendly processes. Some reactions that are difficult to achieve in intermolecular setting can be greatly facilitated via substrate design – linking the reacting functionalities in favourable positions within the starting material. However, this strategy is limited by the accessible structural diversity. A potential alternative is to achieve intramolecularity via a strategic linkage that can be later easily cleaved, also known as molecular tethering (Scheme 1).

Selective difunctionalization of internal alkynes is an important organic transformation that provides access to geometrically defined tetrasubstituted olefins. However, for non-biased alkynes the regioselectivity is difficult to control [1]. Here we report the use of molecular tethering for selective carboamination of propargylic alcohols (Scheme 1). We found that a trifluoromethyl aldimine in combination with alkynyl bromides or aryl iodides provides 6-endo-dig selective cyclization to afford aminoarylation or aminoalkynylation products, respectively. The obtained compounds could be further functionalized by selective transformations of the double bond - hydrogenation or electrophilic fluorination.



Scheme 1. Carboamination of propargylic alcohols via in situ tether formation.

[1] P. D. G. Greenwood, E. Grenet, J. Waser, *Chem. – Eur. J* **2019**, *25*, 3010-3013.