

The Chemist's Interactions

Seminars @ the Chemistry Department

Friday, 22nd October 2021

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LIVE
STREAM
h 14:30

Catalytic Alkyne Chemistry: From New Paradigms to Applications in Natural Product Synthesis

This lecture intends to showcase some unconventional ways of harnessing the reactivity of alkynes via highly selective metal-catalyzed transformations. After a short review of our work in the area of triple bond metathesis [1], some unorthodox addition reactions to internal alkynes will be discussed, including metal catalyzed trans-hydrogenation, trans-hydroboration and trans-hydrostannation reactions, which have little precedent in the literature, if any [2]. Even more perplexing is the recently discovered gem-hydrogenation, in which both H-atoms of H₂ are transferred to the same C-atom of the alkyne substrate with concomitant formation of a discrete metal carbene at the adjacent position [2]. Our current mechanistic understanding will be outlined in some detail.

Selected applications of alkyne metathesis in combination with downstream trans-addition chemistry to target-oriented synthesis are meant to showcase the current state of development.

[1] Fürstner, A. *Angew. Chem., Int. Ed.* **2013**, *52*, 2794.

[2] Fürstner, A. *J. Am. Chem. Soc.* **2019**, *141*, 11.



This is a Virtual Seminar and will be broadcast with the Zoom software.

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