Haloalkynes are easily accessible and highly versatile building blocks, which exhibit rich and tunable reactivities particularly in the presence of transition metal catalysts. Haloalkynes can be generally conceived as a dual functionalized molecule and different reaction intermediates, such as σ-acetylene-metal, π-acetylene and halovinylidene-metal complexes can be achieved and undergo further transformations. Additionally, the halogen moieties can be retained during the reaction processes, which makes the subsequent structural modifications and tandem carbon-carbon or carbon-hetero bond formations become possible. Herein, we describe our recent progress on the development of efficient and practical synthetic methods involving haloalkynes, thus providing new strategies and rapid access to a wide range of functionalized products including many synthetically useful conjugated cyclic and acyclic structures that have potential applications in natural product synthesis, materials science and drug discovery. Importantly, most of these protocols allow multiple bond-forming events to occur in a single operation, thereby offering opportunities to advance chemical synthesis and address the increasing demands for economical and sustainable synthetic methods.

CBC SEMINAR ANNOUNCEMENT

Professor Jiang Huanfeng
South China University of Technology

Transition Metal-Catalyzed Reactions of Haloalkynes

Date: 8th December 2014 (Monday)
Time: 2:30pm–4:00pm
Venue: SPMS MAS Executive Classroom 1
Host: Professor Loh Teck Peng