香港中文大學化學系
Department of Chemistry
THE CHINESE UNIVERSITY OF HONG KONG

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Department of Chemistry Research Seminar Series

Carbones with its Elusive Bonding Description and Broad Implication Complementary to NHC-Carbenes

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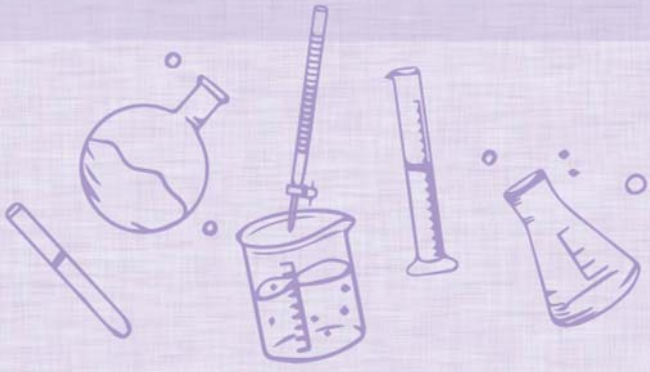
LHC 101



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Carbones with its Elusive Bonding Description and Broad Implication Complementary to NHC-Carbenes

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Carbones (L→C←L) have emerged recently as a new class of organic molecules featuring carbon(0) directly stabilized by two electron-rich groups (L) through Lewis donor-acceptor interaction.[1] Other mesomeric features can also be understood in terms of allenic or zwitterionic form (see **Figure 1**). Owing to the peculiar bonding situation and the zero-valent nature of the central atoms, carbones have attracted much attention in the chemical community as NHC alternatives because their strong σ-donating ability broadly impacts transition-metal coordination, small molecule activation, main-group chemistry, redox non-innocent coordination, and catalysis.[2] This presentation will describe the synthetic preparation and chemical properties of the carbone as well as its application toward supporting metallic complexes for catalysis in tandem photoredox, cross-coupling reaction via tandem C-H and C-O bond activation and a new spin in diversifying FLP reactivity with co-modulator benzyl alcohol.

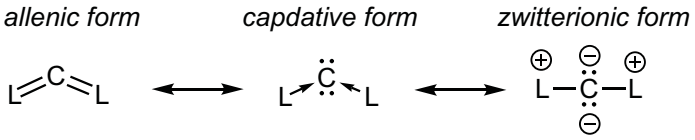

Figure 1. Mesomeric form: bonding situation of carbones.

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