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Reprogramming the Reactivity of Carbenium and Silylium Ions

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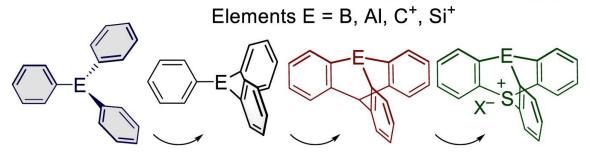


ABSTRACT

Lewis acids are playing a significant role in chemistry. These electron deficient species are finding numerous applications in organic synthesis, material sciences, catalysis and polymer chemistry. A new method for increasing their reactivity recently developed in our group is the following. Starting from a classical triaryl derivative, the orthogonalization of the aromatic groups, the pyramidalization of the central atom and introduction of a positively charged atom near to the central Lewis acidic centre led to a spectacular enhancement of Lewis acidity. [2]

In this poster, the synthesis of the precursors of the triptycenyl carbenium and silylium ions will be presented as well as the first attempts for the *in-situ* generation of these cationic electrophiles from the group XIV series.^[3] Based on that activation of small molecules, the triptycenyl carbeniums platform could act as Lewis superacidic catalysts which can bind small molecules, activate and release them during the catalytic cycle.^[4]

increasing reactivity



orthogonalization + pyramidalization + charge effect =

Reprogramming the reactivity of main-group compounds

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