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Reprogramming the Reactivity of Carbenium and Silylium Ions

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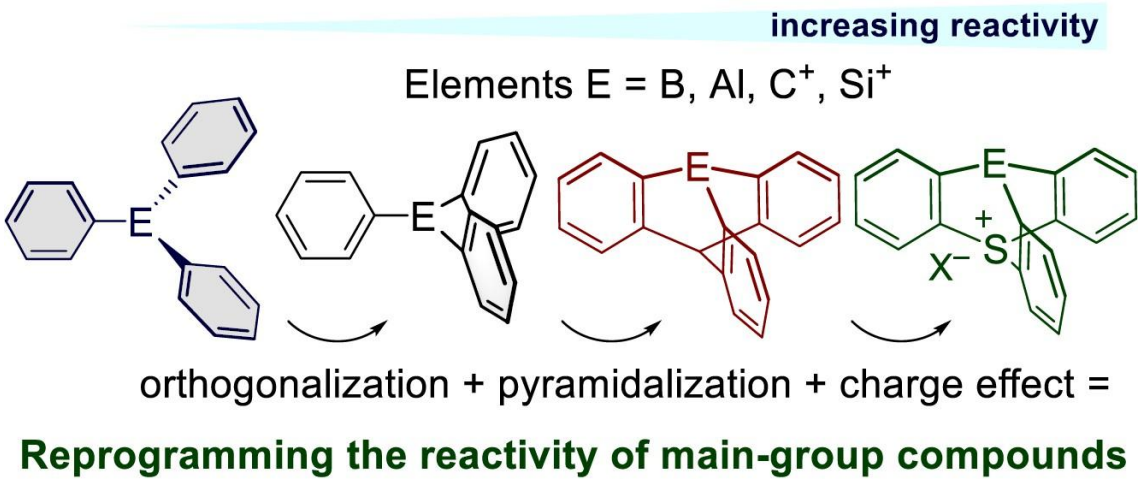
ABSTRACT

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.[1] 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]



REFERENCES

[1] Greb, L. *Eur. J. Chem.* **2018**, *24* (68), 17881-17896.

[2] Osi, A. ; Mahaut, D. ; Tumanov, N. ; Fusaro, L. ; Wouters, J. ; Champagne, B. ; Chardon, A. ; Berionni, G. *Angew. Chem.* **2022**, 61 (7).

[3] Klare, H. F. T.; Oestreich, M. *Dalton Trans.* **2010**, *39*, 9176-9184.

[4] Scott, V. J.; Çelenligil-Çetin, R.; Ozerov, O. V. *J. Am. Chem. Soc.* **2005**, *127* (9), 2852–2853.