THIETES: A NEW PLATFORM FOR MOLECULAR DIVERSIFICATION

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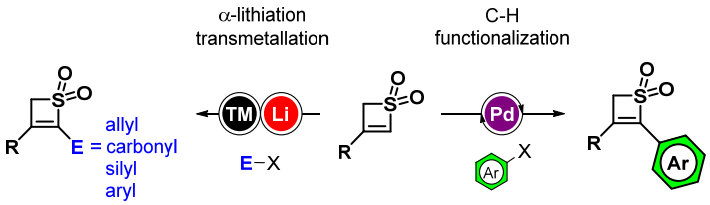
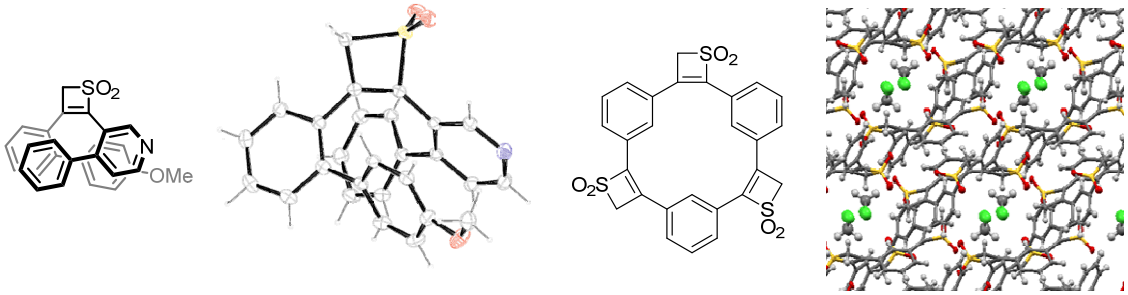
After having worked on various four-membered ring systems in the last years,[1] our group recently showed different approaches towards the functionalization of thietes. To reach this goal, we either used α-metalation and Negishi cross-coupling reactions, or direct palladium-catalyzed C-H-functionalization (scheme 1).[2]



Scheme 1: α-Metalation versus C-H-Activation.

Having showed the suitability of both ways of functionalization, we focused on creating more complex examples. Therefore, C-H activation was selected as the method of choice for further developments. On the one hand, we designed chiral functionalized thietes based on axial chirality in which an intramolecular stabilization would come from electrostatic interactions (scheme 2). On the other hand, using starting thiete units possessing an aryl bromide allowed for macrocyclization, producing structurally interesting trimeric architectures.[3]



Scheme 2: Selected new examples created by C-H-Activation.

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[1] a) M. Eisold, D. Didier *Angew. Chem. Int. Ed.* **2015**, *54*, 15884. b) M. Eisold, G. M. Kiefl, D. Didier *Org. Lett.* **2016**, *18*, 3022. c) M. Eisold, A. N. Baumann. G. M. Kiefl, S. T. Emmerling, D. Didier *Chem. Eur. J.* **2017**, *23*, 1634. d) A. N. Baumann, M. Eisold, D. Didier *Org. Lett.* **2017**, *19*, 2114. e) M. Eisold, D. Didier *Org. Lett.* **2017**, *19*, 4046. f) A. N. Baumann, M. Eisold, A. Music, G. Haas, Y. M. Kiw, D. Didier *Org. Lett.* **2017**, *19*, 5681. g) A. Music, A. N. Baumann, M. Eisold, D. Didier *J. Org. Chem.* **2018**, *83*, 783. h) M. Eisold, F. Reiners, A. Müller-Deku, D. Didier *Org. Lett.* **2018**, *20*, 4654. i) A. N. Baumann, F. Reiners, T. Juli, D. Didier *Org. Lett.* **2018**, *20*, 6736-6740.

[2] M. Eisold, A. Müller-Deku, F. Reiners, D. Didier, *Org. Lett.* **2018**, *20*, 4654−4658

[3] F. Reiners, A. N. Baumann, D. Didier *manuscript in preparation*