

# Photoactivatable Compounds

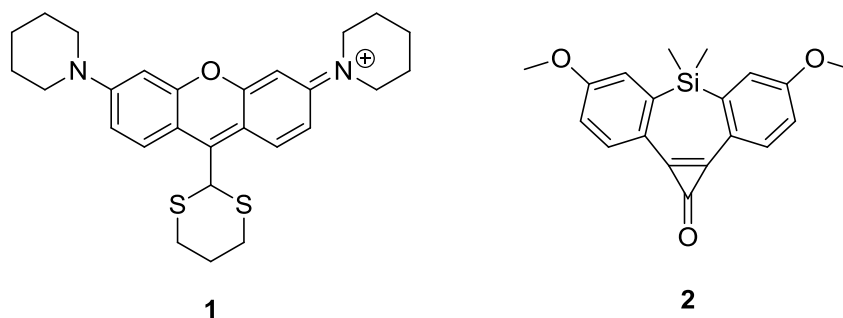
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Photoactivatable compounds are chemical systems that change their physical, chemical or biochemical properties upon irradiation. They drew much attention of scientists over the few last decades and have found many applications in different fields, such as nanoscience, medicinal chemistry or surface modification.

The first part of the talk is focused on a detailed investigation of the mechanism of visible light-induced C-C bond cleavage of a dithianyl-pyrone analogue **1<sup>a</sup>** using steady-state and transient absorption measurements. Elucidation of the structure of the reaction intermediates was accomplished by advanced mass spectrometry techniques coupled with ion spectroscopy.

In the second part, the synthesis and utilization of a new Si-xanthene-based cyclopropenone **2<sup>b</sup>**, which undergoes clean and rapid photochemically-induced decarbonylation while generating alkynes, will be discussed. 1,3-Dipolar cycloaddition and [4+2] inverse electron-demand Diels-Alder reactions of the strained alkynes have been investigated using laser flash photolysis, steady state photolysis, kinetic and quantum yield measurement studies.



[a] Štacko P., Šebej P., Tazhe Veetil A., Klán P. *Org. Lett.* **2012**, *14*, 4918-4921.

[b] Martínek M.; Filipová L.; Ludvíková L.; Galeta J.; Klán P. *Org. Lett.* **2016**, *18*, 4892-4895