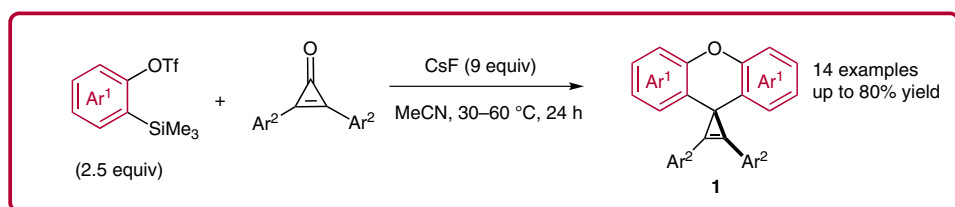
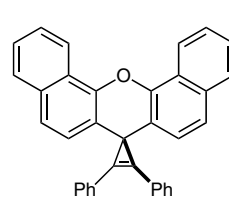
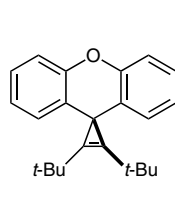
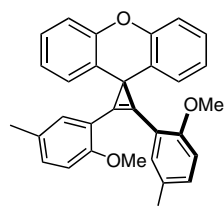
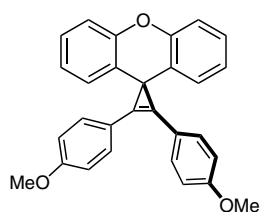


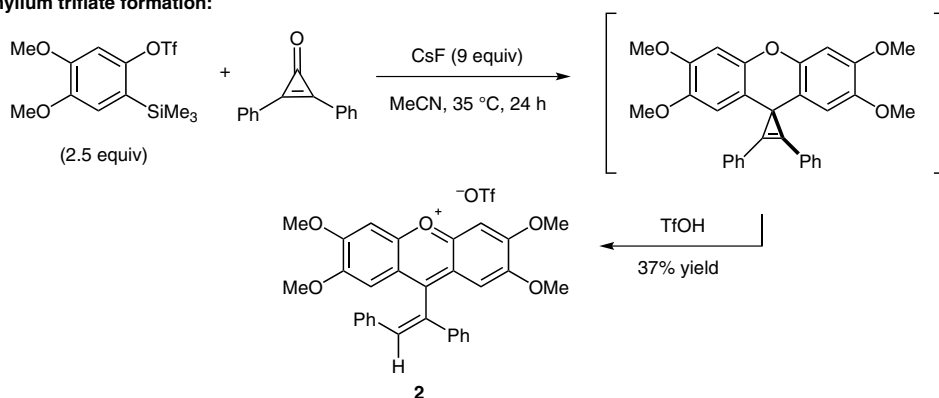
## Aryne't You Doubly Impressed with this Cyclopropenone Insertion?



### Selected examples:



### Xanthylium triflate formation:



**Significance:** The authors demonstrate a method to formally insert two aryne units into the carbon–oxygen double bond of a ketone, producing spirocyclic xanthene–cyclopropene scaffolds **1**. Mechanistically, a direct formal [2+2] cycloaddition of an aryne with cyclopropenone is followed by the subsequent cycloaddition of the *ortho*-quinone methide intermediate with the second aryne equivalent.

**Comment:** The reaction relies on the strong nucleophilicity of the ketone oxygen: cyclopropenone proved to be one of the best candidates due to its zwitterionic structure, and attempts to generalize the reaction with other ketones failed. Interestingly, the more electron-rich aryne precursor, when exposed to trace acid, ring-opened to produce xanthylium triflate **2**.

**SYNFACTS Contributors:** Timothy M. Swager, Sarah P. Luppino  
Synfacts 2015, 11(6), 0601 Published online: 18.05.2015

DOI: 10.1055/s-0034-1380808; Reg-No.: S04715SF