

REMOTE FUNCTIONALIZATION OF STEREODEFINED SUBSTITUTED CYCLOPROPANES

Anthony Cohen, and Ilan Marek

Technion-Israel Institute of Technology, 32000 Haifa, Israel

As part of our ongoing effort to contribute new ways to synthesize stereodefined acyclic molecules, we recently turned our attention to the catalytic palladium Heck arylation for the remote ring-opening of ω -ene cyclopropanes. This reaction allows the creation of up to 3 new acyclic stereocenters by triggering a metal-walk cascade, revealing a desired open chain molecular backbone from the cyclopropane.

In this work, we apply these oxidative Heck conditions for the selective opening of vinylcyclopropanes. This allows us to obtain valuable compounds such as fully substituted lactols and acyclic chains bearing two stereocenters in a 1,5 relationship, a motif present in many natural products such as α -Tocopherol (vitamin E).

