

## המעבדה לכימיה אורגנית ואי-אורגנית

# סמינר

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בנושא:

Regioselective Carbometallation of 1,2-Disubstituted  
Cyclopropenes

## Regioselective Carbometallation of 1,2-Disubstituted Cyclopropenes

**Abstract:** Stereodefined poly-substituted cyclopropanes are not only frequent motifs in biological systems, but also important synthetic building blocks and ideal substrates for a multitude of selective ring opening reactions. These transformations lead to valued stereodefined acyclic molecular fragments. As part of our research campaign to develop efficient routes to polysubstituted three membered rings as single diastereomers, we recently turned our attention to the reactivity of 1,2-disubstituted cyclopropenes. We have initially reported the regio- and diastereoselective copper-catalysed carbomagnesiation of two different activated 1,2-disubstituted cyclopropenyl derivatives, namely cyclopropenylsilanes and  $\pi$ -substituted cyclopropenes. In both cases, the reaction proceeds smoothly towards the formation of the electronically favoured regioisomer. For cyclopropenylsilanes, the stabilized carbanion in the  $\alpha$ -position of the silyl group is preferred, whereas for  $\pi$ -substituted cyclopropenes the favoured regioisomer have the carbon–magnesium bond conjugated to the  $\pi$ -system. With the aim to further push the boundary of possible accessible polysubstituted cyclopropane derivatives, we designed a new approach leading to the formation of a single isomer even for two electronically unbiased substituents.

