Enantioselective Conjugated Addition of Vinylaluminums to Cyclic Enones

**Significance:** The development of transition-metal-catalyzed enantioselective reactions allowing the formation of quaternary stereogenic centers is a challenging task. Herein, the authors report a highly enantioselective conjugated addition of Si-substituted vinylaluminum reagents to five- and six-membered cyclic β-substituted enones of type 1. A chiral bidentate NHC–copper complex has been identified to facilitate the desired transformation of 1 into 2 with good to excellent yields and enantioselectivities.

**Comment:** The active catalyst for the enantioselective addition is easily formed in situ starting from air-stable CuCl$_2$·H$_2$O and complex 4. The reaction (1 → 2) is typically finished within 15–20 minutes and the required Si-containing vinylaluminum reagents are readily available from silylacetylenes though a stereoselective hydroalumination using DIBAL-H. Furthermore, it has been shown that the enantiomerically enriched vinylsilane products can be easily protodesilylated (7 → 8), oxidized (9 → 10) or transformed into the corresponding vinyl iodides (5 → 6) with good to excellent yields.

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