Category

Metal-Mediated Synthesis

Key words

anti-Markovnikov hydroalkylation

homoallylic alcohols

zinc

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Palladium-Catalyzed Anti-Markovnikov Hydroalkylation of Homoallylic Alcohols Bearing β -Fluorines *Org. Lett.* **2013**, *15*, 4478–4481.

Palladium-Catalyzed Anti-Markovnikov Hydroalkylation of Homoallylic Alcohols

$$\begin{array}{c} X \\ R^1 \\ F \\ F \\ \end{array} + \begin{array}{c} R^2 Z n B r \\ \hline \\ (1 \ equiv) \\ \hline \\ (6 \ equiv) \\ \hline \\ R^1 = A r, A l k \\ R^2 = A l k \\ X = O H, O B n, N B n_2 \end{array}$$

Selected examples:

Significance: Lin and Qing report a mild and convenient protocol for the anti-Markovnikov hydroalkylation of β , β -difluorinated homoallylic alcohols. The palladium-catalyzed reaction with alkylzinc reagents furnishes the products in good to excellent yields.

Comment: The reported protocol affords a wide range of synthetically useful *gem*-difluorinated compounds with good functional-group compatibility. Moreover, the results show that the transposition of CH₂ into CF₂ at the allylic position of homoallylic alcohols can modify the electronic and steric environment of the alkene.

SYNFACTS Contributors: Paul Knochel, Christoph Sämann Synfacts 2014, 10(1), 0072 Published online: 13.12.2013 **DOI:** 10.1055/s-0033-1340365; **Reg-No.:** P15513SF