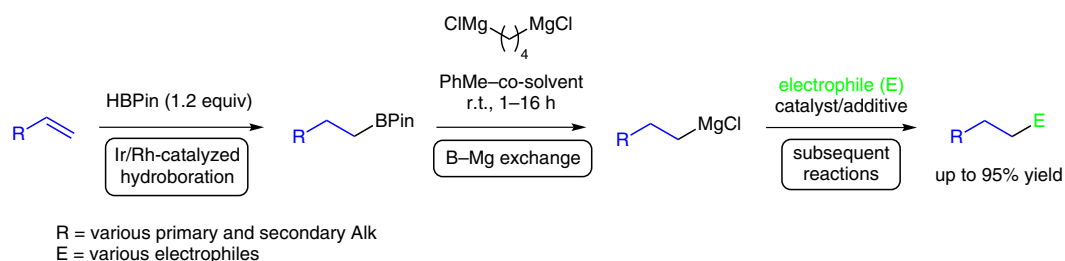
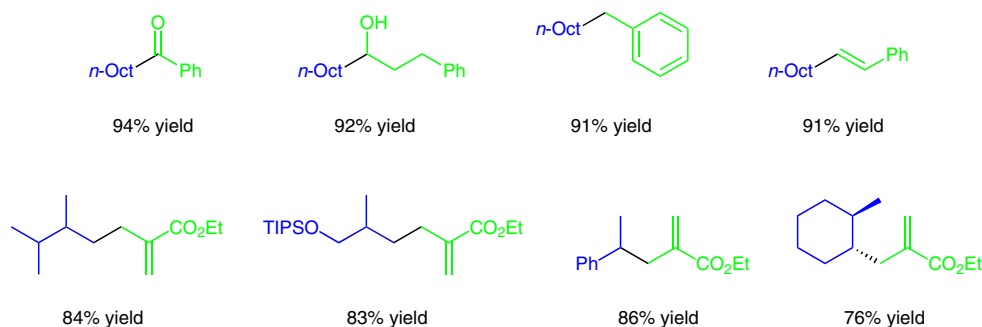


M. A. REICHLÉ, B. BREIT* (ALBERT-LUDWIGS-UNIVERSITÄT FREIBURG, GERMANY)
Preparation of Alkylmagnesium Reagents from Alkenes through Hydroboration and Boron–Magnesium Exchange
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Alkylmagnesium Reagents from Boron–Magnesium Exchange



Selected products obtained after trapping of prepared alkylmagnesium reagents:



Significance: A novel method for preparing alkylmagnesium reagents has been disclosed. Alkenes undergo a hydroboration with subsequent boron–magnesium exchange to yield the corresponding primary and secondary alkylmagnesium reagents. These organometallic reagents can be used in a wide range of carbon–carbon bond-forming reactions.

Comment: The key for an efficient boron–magnesium exchange is the use of a pinacolborolane and a 1,4-dimagnesium reagent. The byproducts formed in the course of the exchange reaction did not disturb various subsequent reactions like alkylations, 1,2-additions as well as transition-metal-catalyzed cross-coupling reactions.

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Category

Metal-Mediated
Synthesis

Key words

boranes

C–C coupling

Grignard reaction

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of the month