Category

Metal-Mediated Synthesis

Key words

tin

boron

copper

alkynoates

tributyltin methoxide

trisubstituted alkenylstannanes

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Synthesis of Trisubstituted Alkenylstannanes through Copper-Catalyzed Three-Component Coupling of Alkylboranes, Alkynoates and Tributyltin Methoxide
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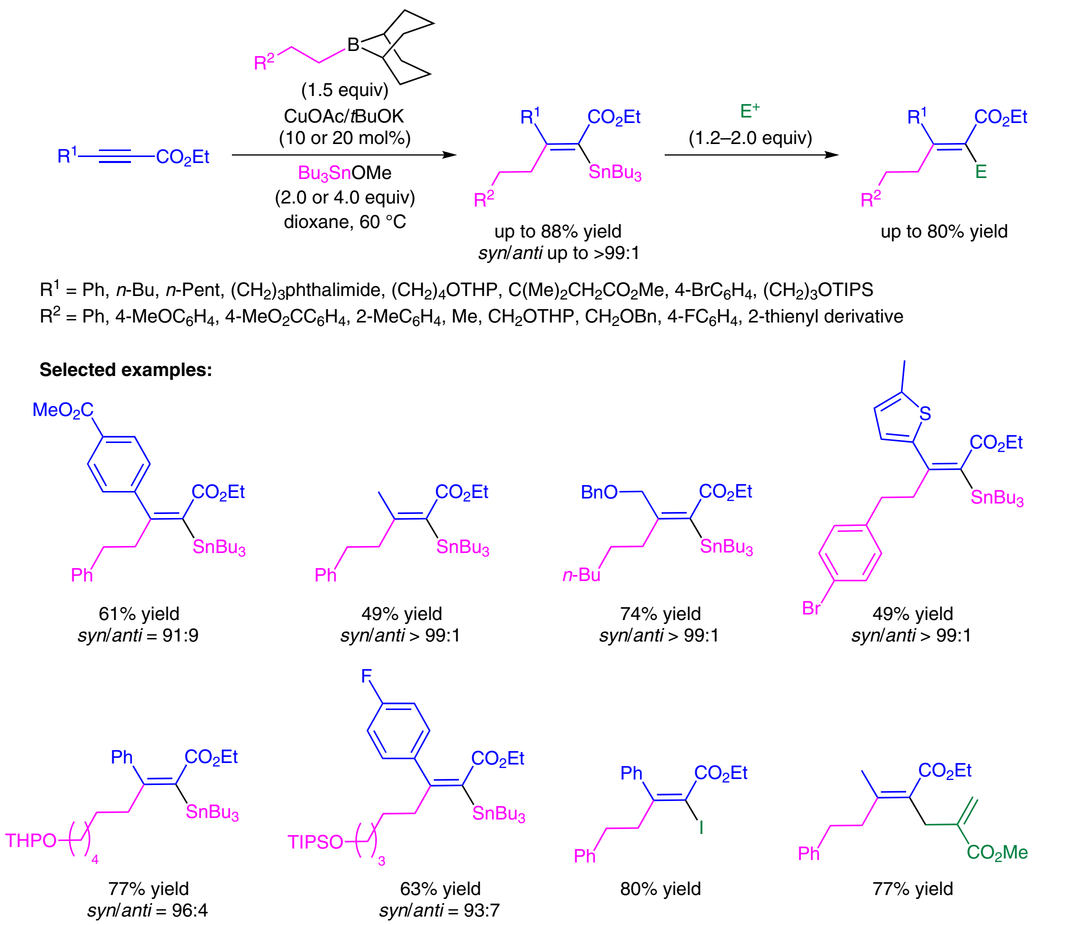
Synthesis of Trisubstituted Alkenylstannanes Starting from Alkynoates



Significance: The authors report a highly regioselective copper-catalyzed synthesis of trisubstituted alkenylstannanes. Through a three-component coupling of alkylboranes, alkynoates and tributyltin methoxide, these trisubstituted alkenylstannanes are obtained in good yields and with high *syn* selectivity. The appropriate alkylboranes are easily accessible by hydroboration of the corresponding alkenes with the 9-borabicyclo[3.3.1]nonane (9-BBN-H) dimer.

Comment: Standard methods for the synthesis of alkenylstannanes described by Shirakawa and Hiyama include the palladium- or nickel-catalyzed carbostannylation of internal alkynes with organostannanes which are somewhat difficult to prepare.

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