Synthesis of Trisubstituted Alkenylstannanes
Starting from Alkynoates

Significance: The authors report a highly regio-selective copper-catalyzed synthesis of trisubstituted alkenylstannanes. Through a three-component coupling of alkyboranes, alkynoates and tributyltin methoxide, these trisubstituted alkenylstannanes are obtained in good yields and with high syn selectivity. The appropriate alkyboranes 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.