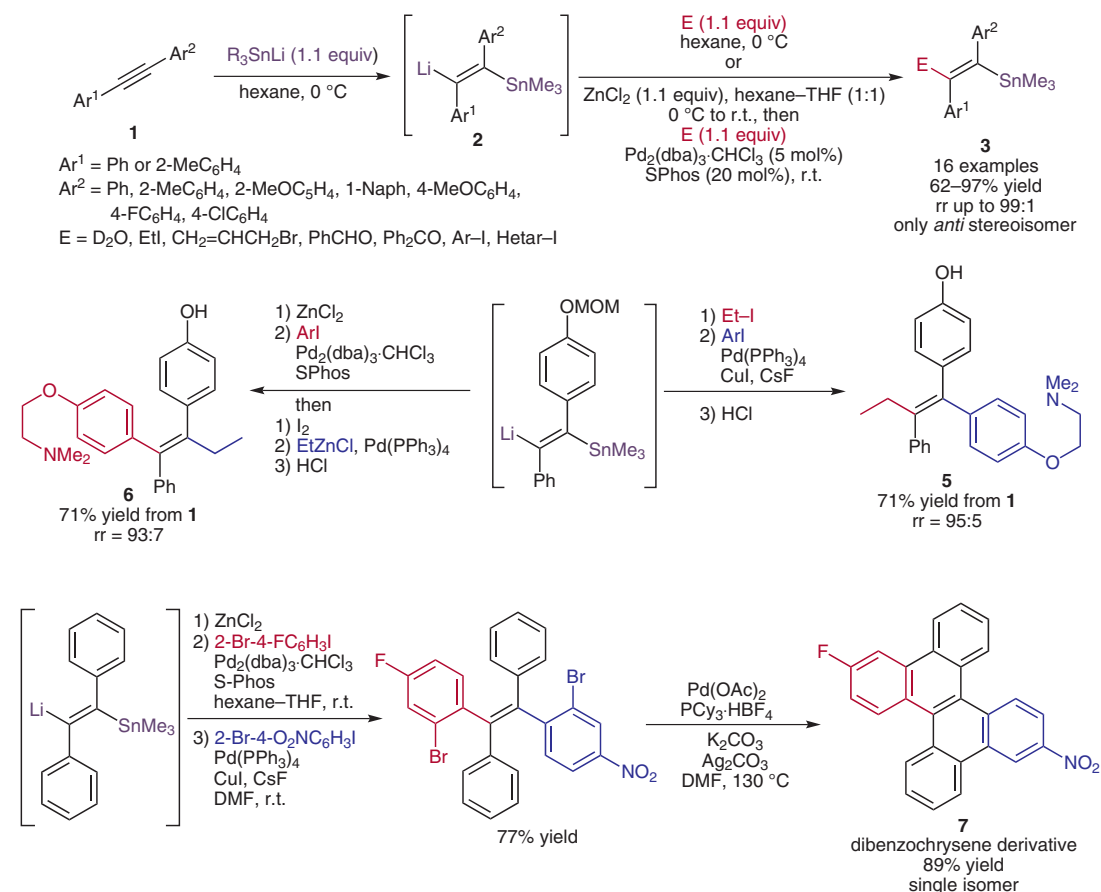


Synthesis of Tetrasubstituted Alkenes through a Stannyllithiation



Significance: The authors disclose a stannyllithiation of diarylacetylenes to yield tetrasubstituted alkenes. Relatively few methods exist to access these synthons since regio- and stereoselectivity are often a problem. The utility of this strategy is showcased by a synthesis of two isomers of hydroxytamoxifen (**5** and **6**) and dibenzo[*g,p*]-chrysenes (**7**).

Review: I. Beletskaya, C. Moberg *Chem. Rev.* **2006**, *106*, 2320-2354.

Comment: The regioselectivity of this transformation largely depends on the steric and electronic parameters of the aryl groups. In general, Me₃Sn adds to a carbon distal from *ortho*-substituted aryl groups and on the same carbon as electron-rich aromatic substituents. The alkenyllithium can be functionalized with a number of electrophiles, ranging from alkyl halides and carbonyl compounds to aryl iodides through Negishi coupling after transmetalation to zinc. The vinylstannane can undergo cross-coupling reactions or be converted into a vinyl iodide.