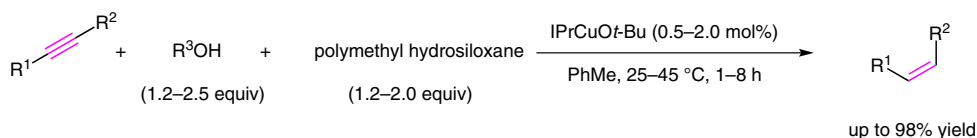
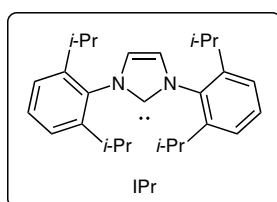


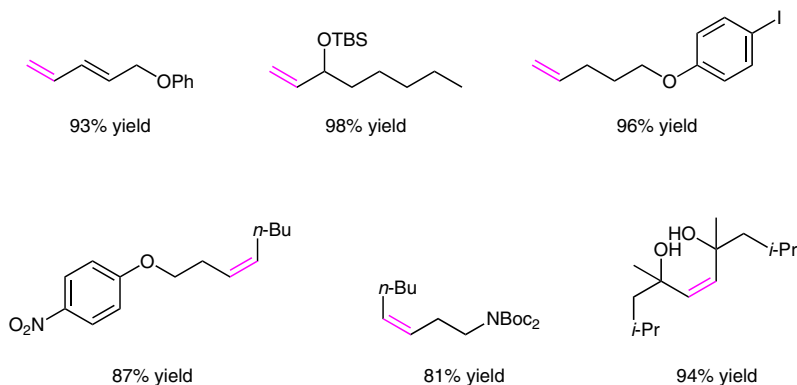
## Catalytic Semireduction of Alkynes to Alkenes



R<sup>1</sup>, R<sup>2</sup> = Alk, alkenyl residues  
R<sup>3</sup> = *i*-Bu, *t*-Bu



### Selected examples:



**Significance:** A novel copper-catalyzed semireduction of alkynes to alkenes has been disclosed. 0.5 to 2 mol% of a copper catalyst in combination with polymethylhydrosiloxane and isobutyl alcohol efficiently reduced terminal and internal alkynes, even in the presence of nitro and iodo groups.

**Comment:** The authors propose the following mechanism: the silane transfers its hydride to the copper catalyst and a subsequent hydrocupration of the alkyne takes place. Protonation of this alkenyl-copper intermediate by the alcohol forms a copper alkoxide and the desired product.