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*Trans*-Selective Radical Silylzincation of Ynamides  
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# Trans-Selective Silylzincation of Terminal Ynamides

Category

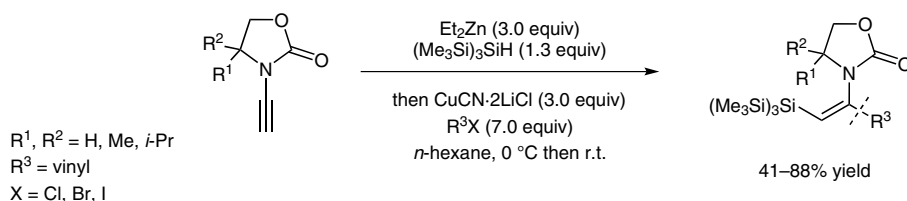
Metal-Mediated  
 Synthesis

Key words

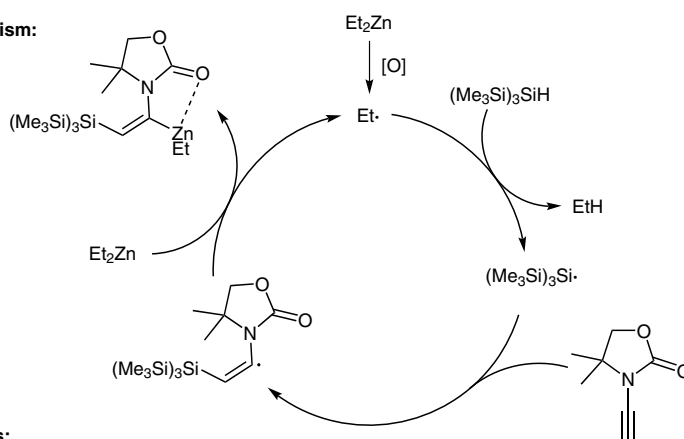
zinc

copper

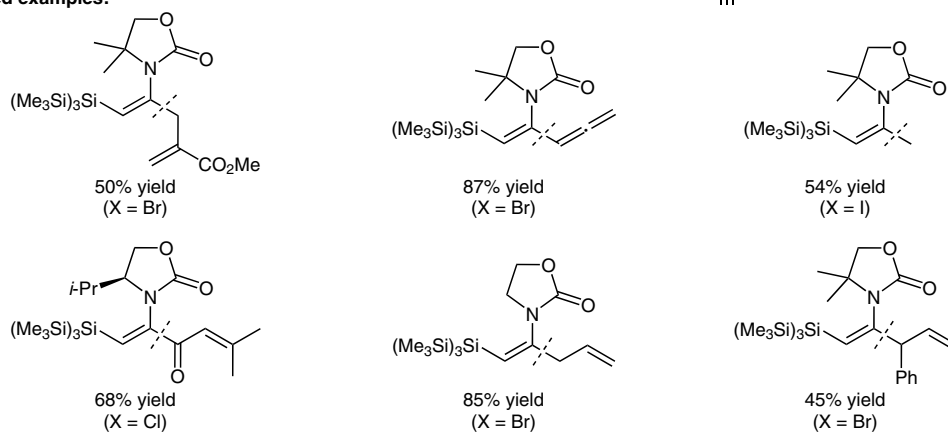
silylation



Proposed mechanism:



Selected examples:



**Significance:** The authors report a regio- and stereoselective silylzincation reaction of terminal ynamides using  $(\text{Me}_3\text{Si})_3\text{SiH}$  and diethyl zinc. The resulting vinylzinc intermediates are trapped by a copper(I)-mediated substitution reaction to obtain *Z*- $\beta$ -silylenamides in high yields.

**Comment:** The radical-chain process involves an addition of the  $(\text{Me}_3\text{Si})_3\text{Si}$  radical to the ynamide to provide a *Z*-configured  $\alpha$ -amino vinylic radical which reacts with the dialkylzinc reagent by homolytic substitution to afford a  $\alpha$ -zincated  $\beta$ -silylenamide.

**SYNFACTS Contributors:** Paul Knochel, Diana Haas  
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