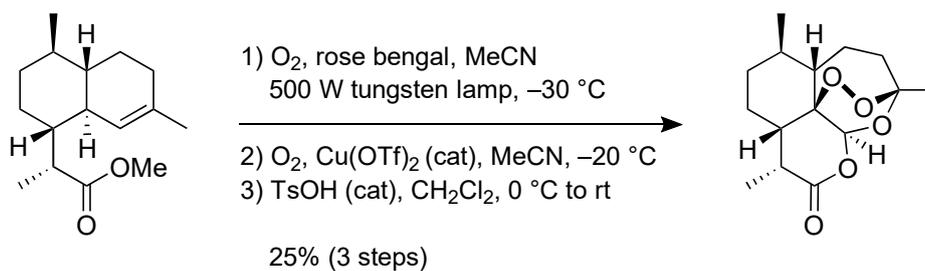


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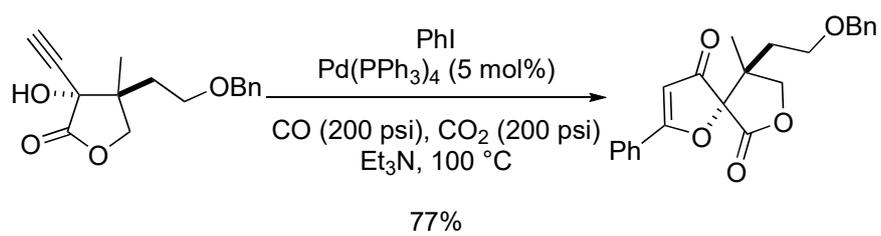
1



J. S. Yadav *et al.*, *Tetrahedron*, **66**, 2005 (2010)

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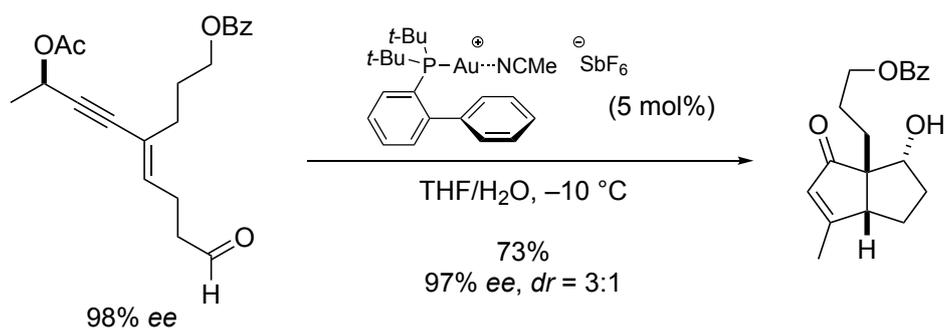
2



K. C. Nicolaou *et al.*, *Angew. Chem. Int. Ed.*, **46**, 4708 (2007)

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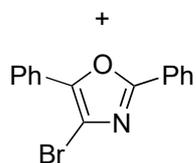
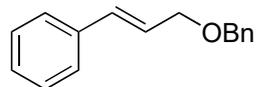
3



E. M. Carreira *et al.*, *Angew. Chem. Int. Ed.*, **58**, 2490 (2019)

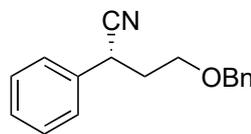
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4

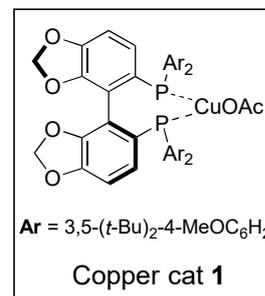


1) Copper cat **1** (6 mol%)
Me₂PhSiH (2 eq)
NaOTMS (2 eq)
BrettPhos (6 mol%)
[Pd(cinnamyl)Cl]₂ (3 mol%)
THF, 45 °C

2) *n*-OctO₂C \equiv CO₂*n*-Oct
Toluene, 110 °C



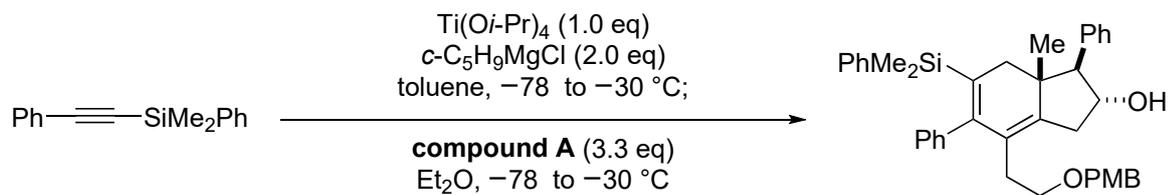
73% (2 steps), *er* 99:1



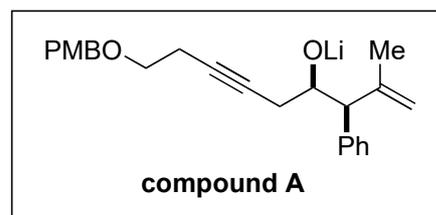
S. L. Buchwald *et al.*, *J. Am. Chem. Soc.*, **141**, 18668 (2019)

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5



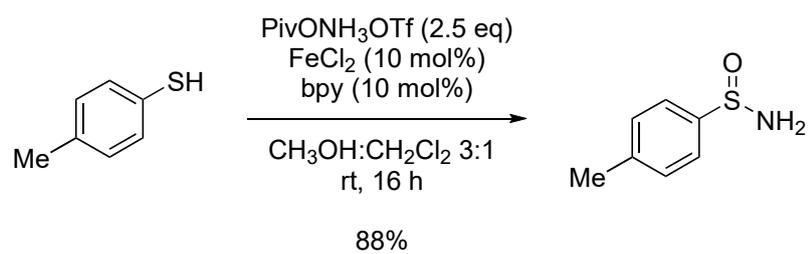
57%



G. C. Micalizio *et al.*, *J. Am. Chem. Soc.*, **134**, 2766 (2012)

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6



B. Morandi *et al.*, *Angew. Chem. Int. Ed.*, **60**, 758 (2021)