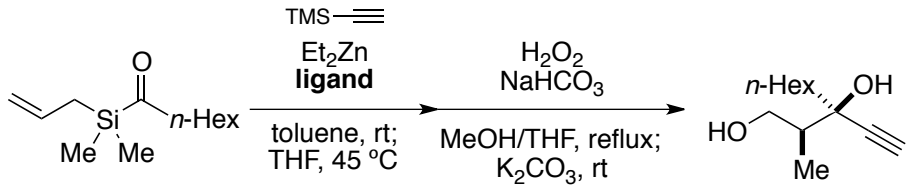
Fukuyama Group-Group Meeting Cumulative Examination

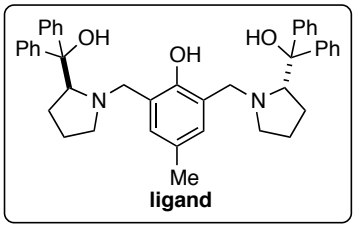
10/21/2017

Name

1.

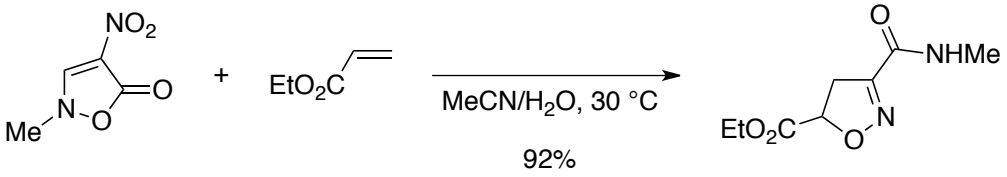


80% (2 steps)
dr > 98:2
86% ee



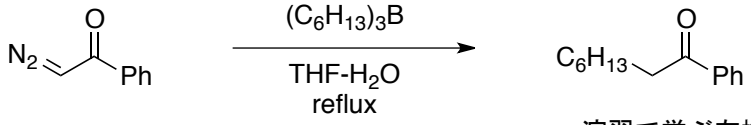
I. Marek *et al.*, *Angew. Chem. Int. Ed.*, **52**, 13717 (2013)

2.



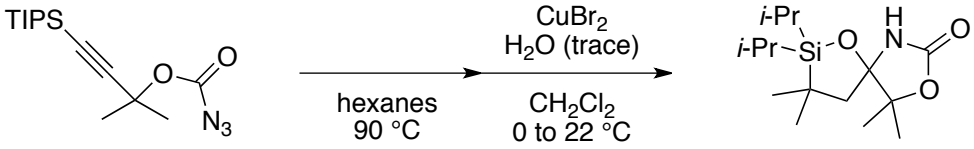
N. Nishiwaki *et al.*, *Org. Biomol. Chem.*, **9**, 2832 (2011)

4.



演習で学ぶ有機反応機構B83（化学同人）
J. Hooz and H. Kono, *J. Org. Synth.*, *Coll. Vol.* **VI**, 919 (1988)

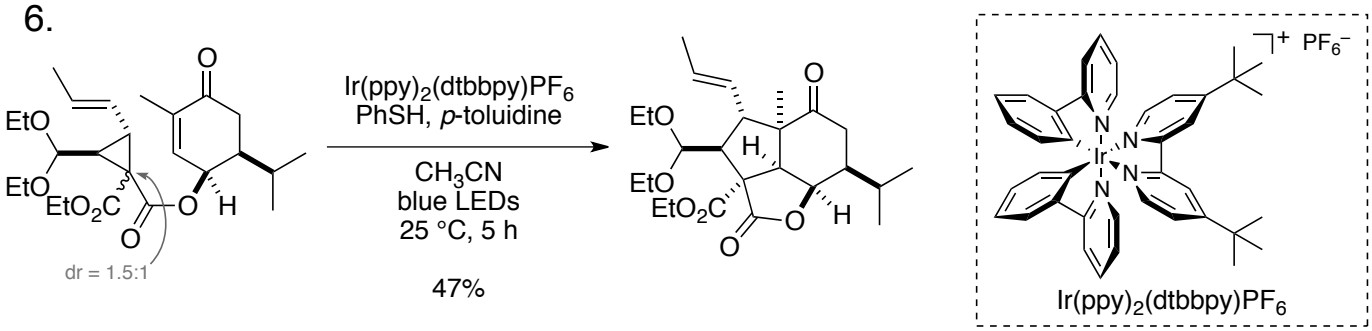
5.



48% (2 steps)

J. A. May *et al.*, *Chem. Sci.*, **8**, 7132 (2017)

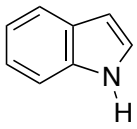
6.



Z. Yang *et al.*, *J. Am. Chem. Soc.*, **139**, 13989 (2017)

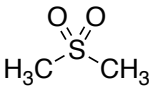
3. Provide the pK_a values of these acids. You may round off the values to the nearest whole number.

1) H_3C-CN

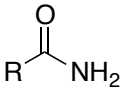
2) 

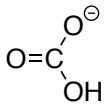
3) H_3C-NO_2

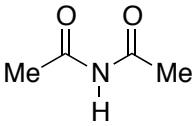
4) H_2O

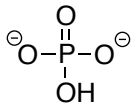
5) 

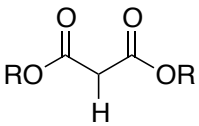
6) H_2

7) 

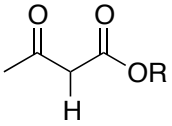
8) 

9) 

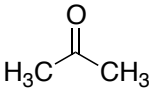
10) 

11) 

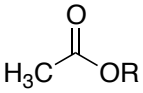
12) $Et_3\overset{\oplus}{N}H$

13) 

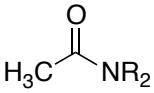
14) $(TMS)_2NH$

15) 

16) Et_2NH

17) 

18) PhSH

19) 

20) EtSH