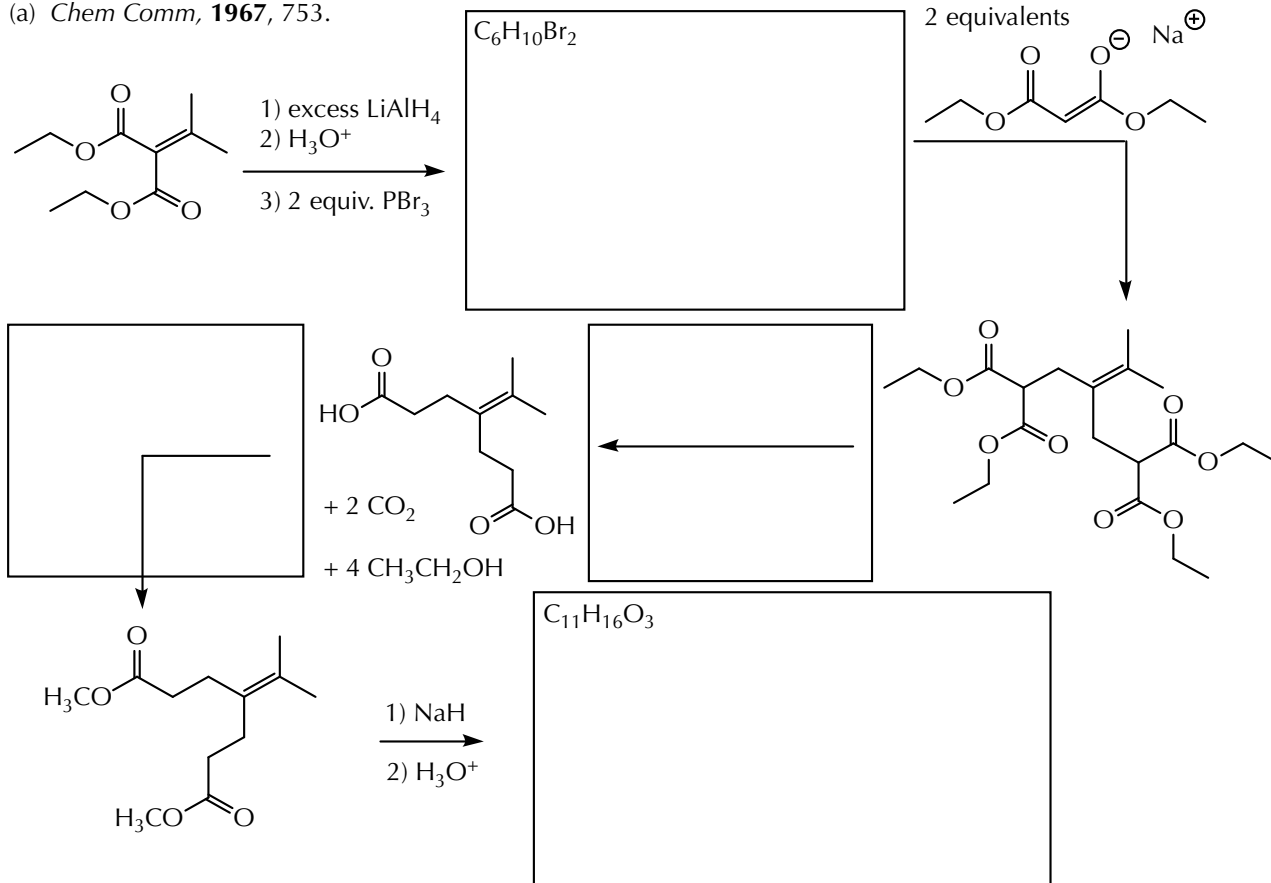
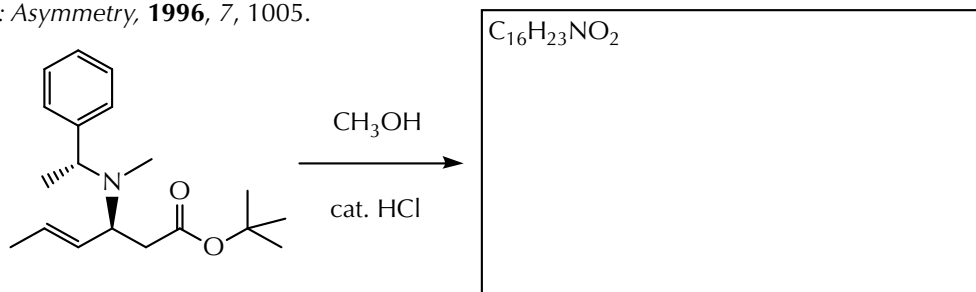
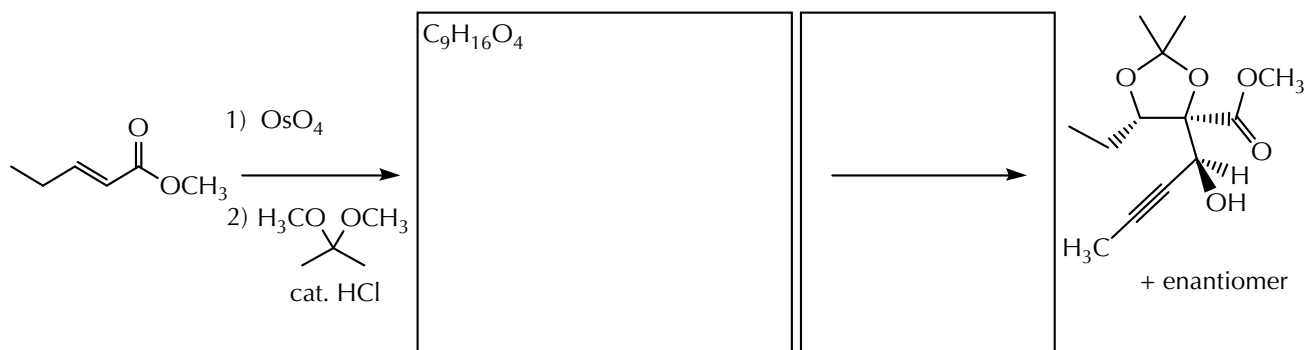


EQ 06.15

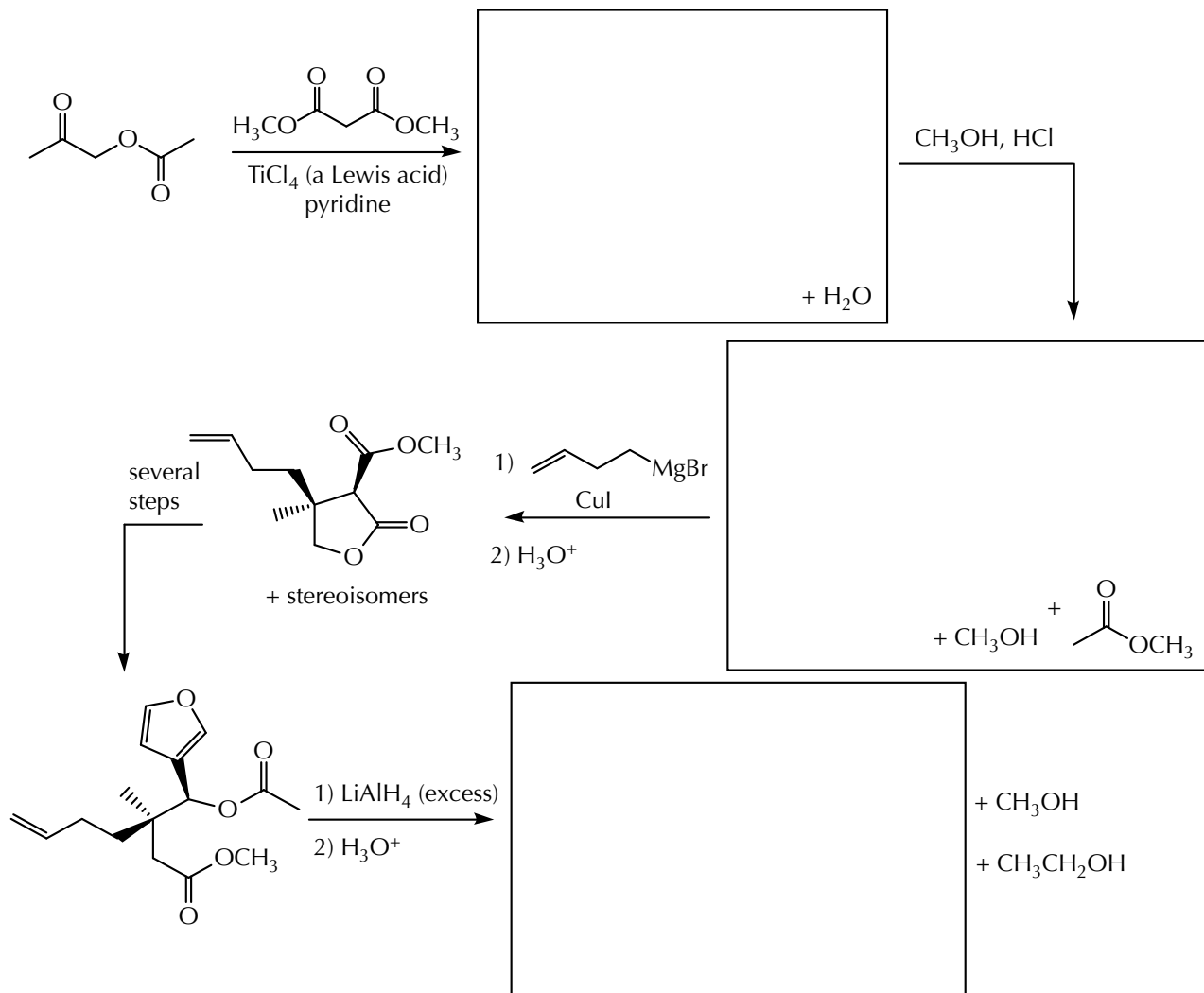
Complete the following reactions by providing starting material, reactants (number experimental steps as necessary), or products. Indicate stereochemistry for the reactions and if more than one stereoisomer is formed, draw one structure and write "+ enantiomer" or "+ diastereomer." Specify if reagents are used catalytically. Do not use abbreviations.

(a) *Chem Comm*, **1967**, 753.(b) *Tetrahedron: Asymmetry*, **1996**, 7, 1005.(c) *J Am Chem Soc*, **2002**, 124, 12078.

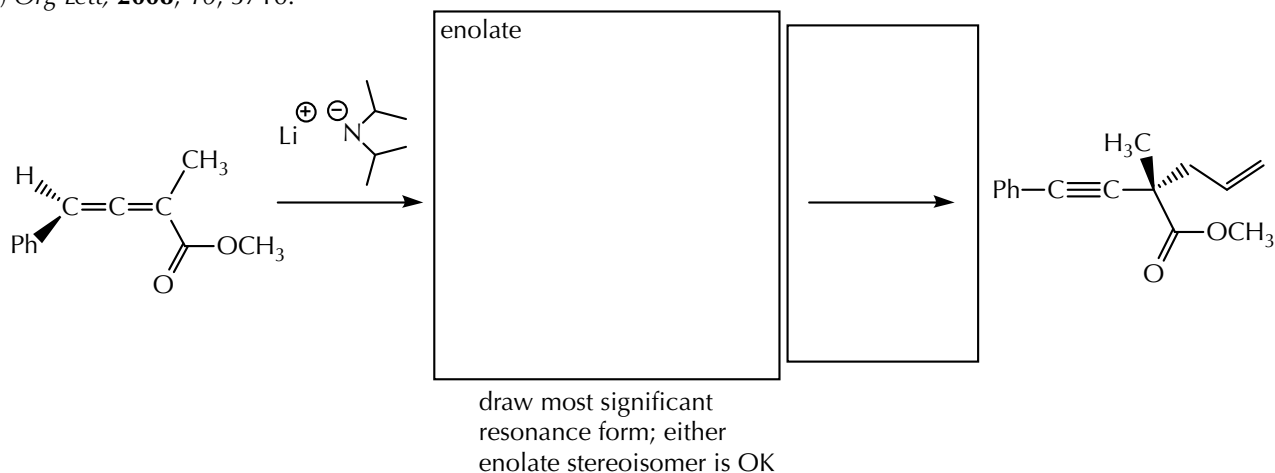
EQ 06.16

Provide starting materials, products, or reagents for the following reactions. If more than one stereoisomer would be formed for a product, draw one of the stereoisomers and write “+ enantiomer” or “+ diastereomer.” If more than one step is needed to carry out a given transformation, be sure to number steps.

(a) *Tetrahedron*, **2017**, 73, 3612. Hint: Going straight through this problem from start to end in one direction may not be the best approach – in some cases working backwards might be easier.

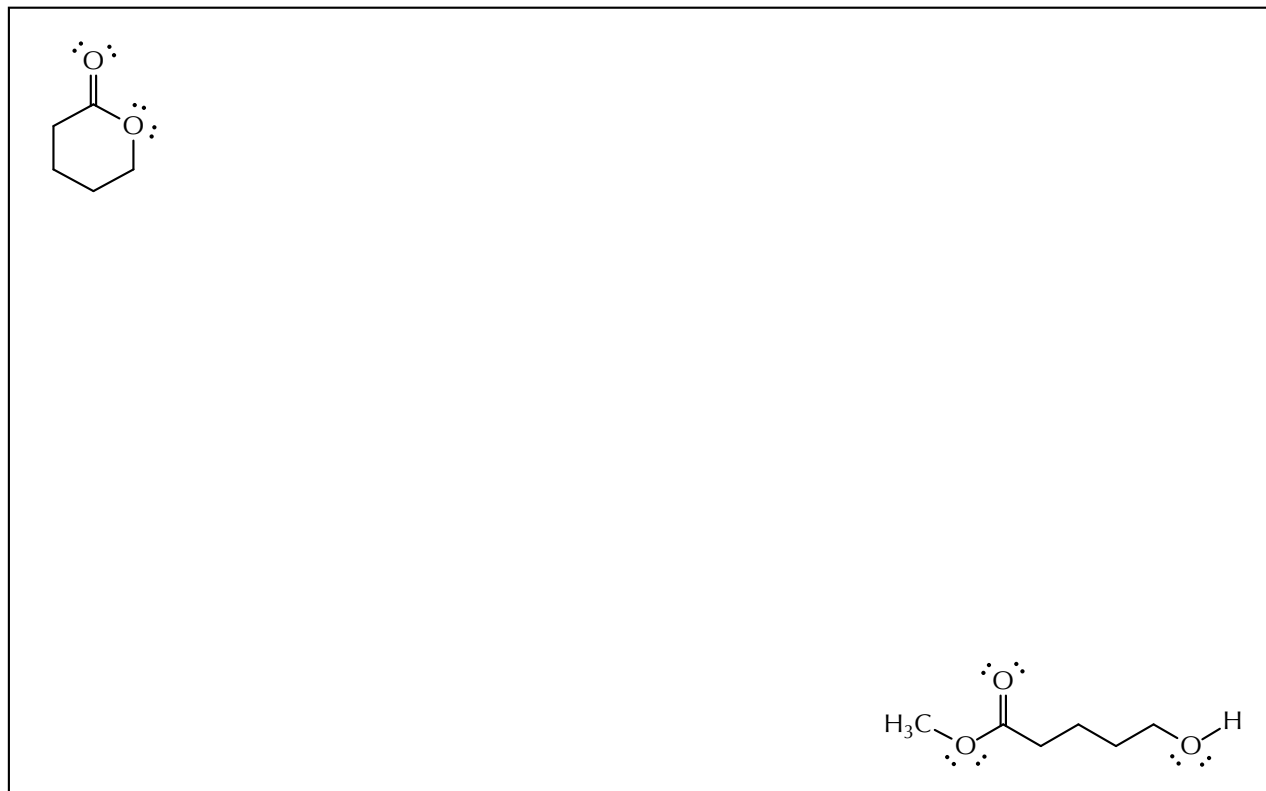
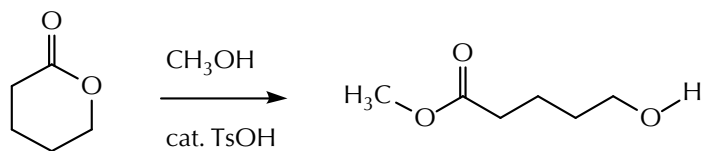


(b) *Org Lett*, **2008**, 10, 3710.

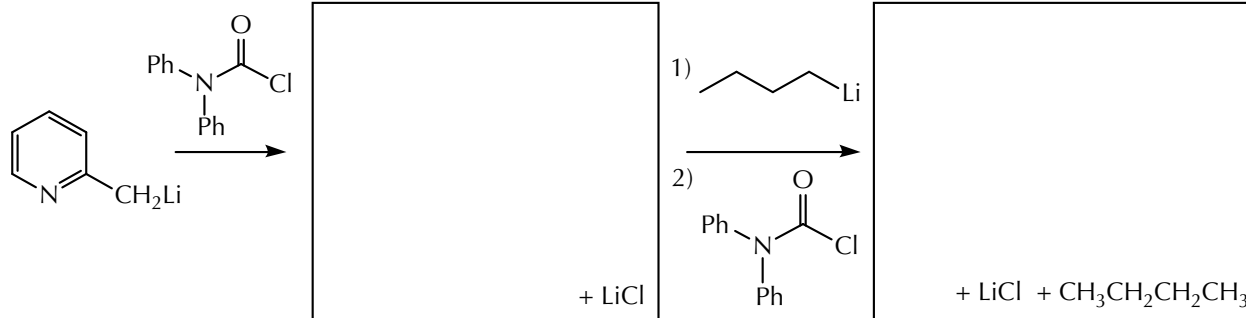


EQ 06.17

- A. Propose a mechanism for the acid-catalyzed ring opening of the following lactone by methanol. You may use H-B for an acid and B[⊖] as its conjugate base.



B. *J Org Chem*, **2007**, 72, 9195.



C. *J Org Chem*, **2008**, 73, 2.

