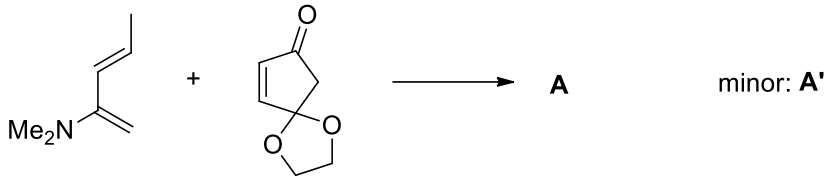
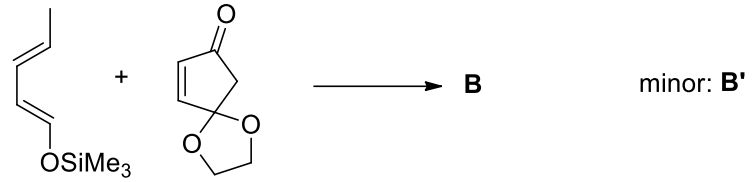
FRO-II, Problems of the Week Nº 10 2025 Professor Nicolai Cramer

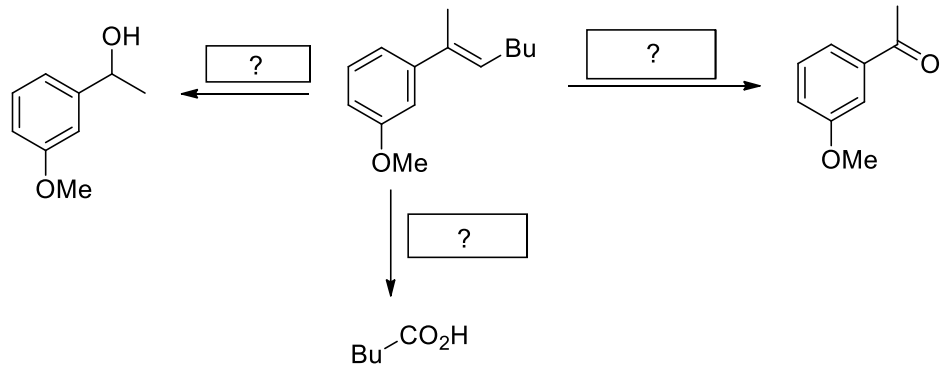
1. What are the structures of **A** and **B**? Pay especially attention to the regio- and stereochemistry. The ratio **A/A'** and **B/B'** varies with the reaction temperature and time. The higher temperature produces more of **A'** and **B'**. What are their respective structures?





2. a) What reagents and conditions are required for indicated transformations?

   b) Draw the mechanism that leads to the common intermediate of all three branches.



3. What is the structure of **B** and **C**? How is the relevant functional group of **B** called?
   Hints: Think first of classical condensation chemistry: amine + aldehyde, subsequently the most *acidic* position will be deprotonated forming the reactive intermediate **B**.