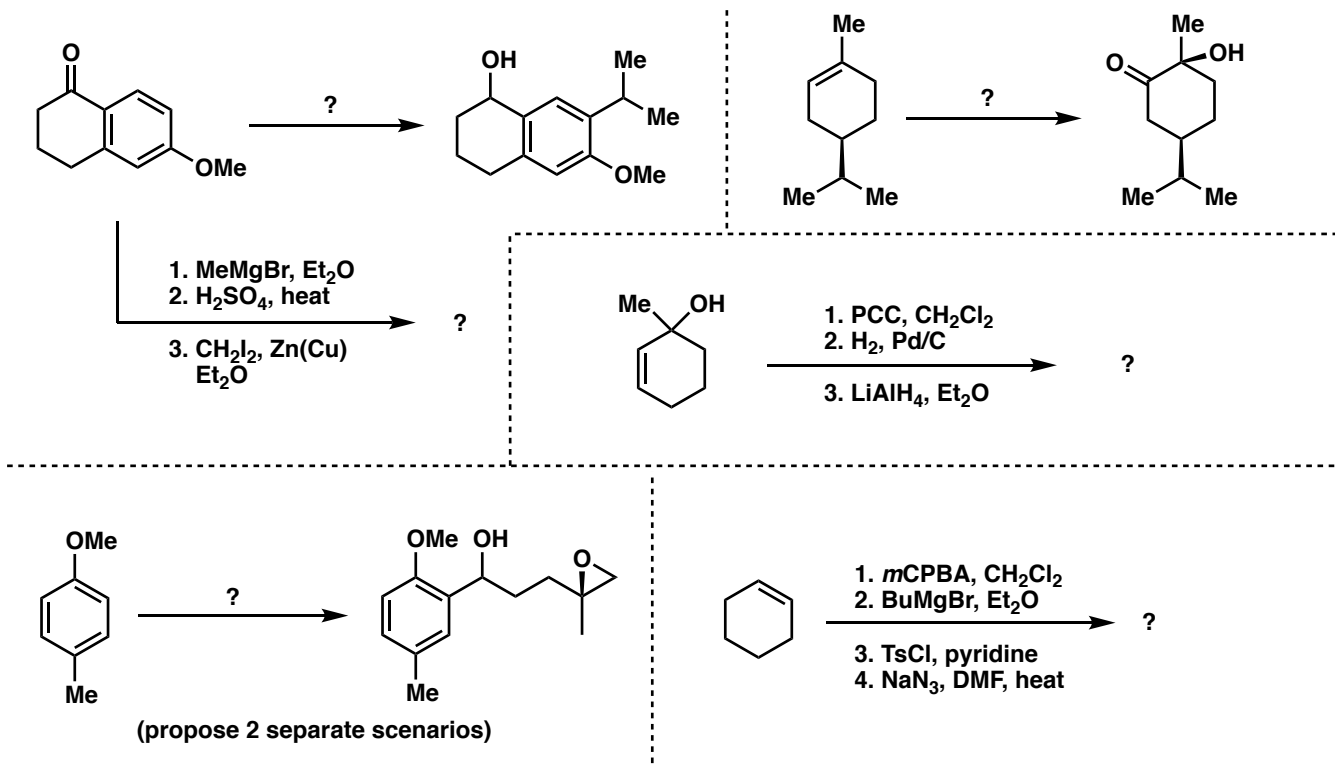
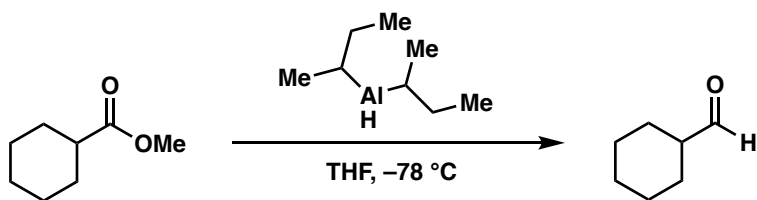


Problem Set 7
CHM 2211

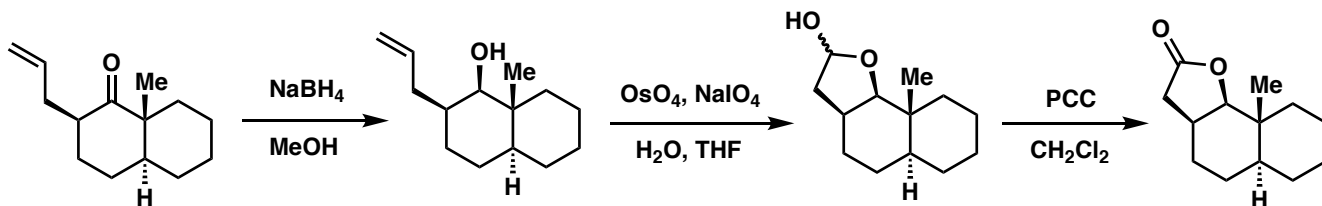
1. a. Provide the product or reagent(s) in the following transformations.



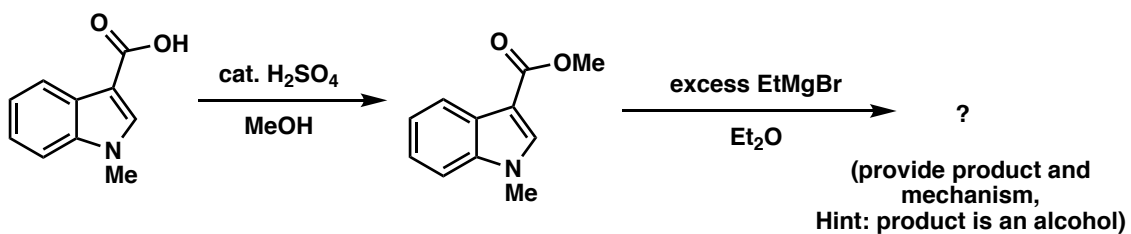
2. The reagent diisobutylaluminum hydride (DIBAL-H) is a reagent that behaves very much like lithium aluminum hydride, but only contains one hydride equivalent per molecule. Using your knowledge of LAH reactivity, draw a mechanism of how this ester is converted to the following aldehyde at low temperature.



3. a. Provide a mechanism for each of the following transformations in the synthetic sequence below.



b. Esters can undergo addition with organometallic reagents multiple times. Provide a mechanism for the formation of the ester from the given carboxylic acid, and then provide a mechanism for the second step.



4. Provide a forward synthesis of the following compounds from either benzene, anisole, and/or pyridine and units of 3 carbons or fewer (a retrosynthesis will help you!!).

