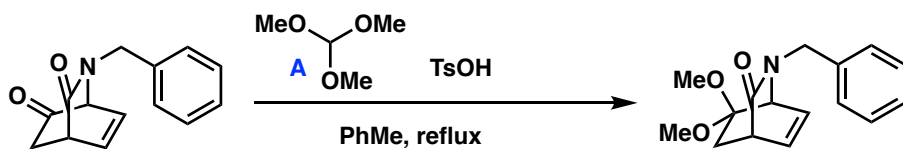
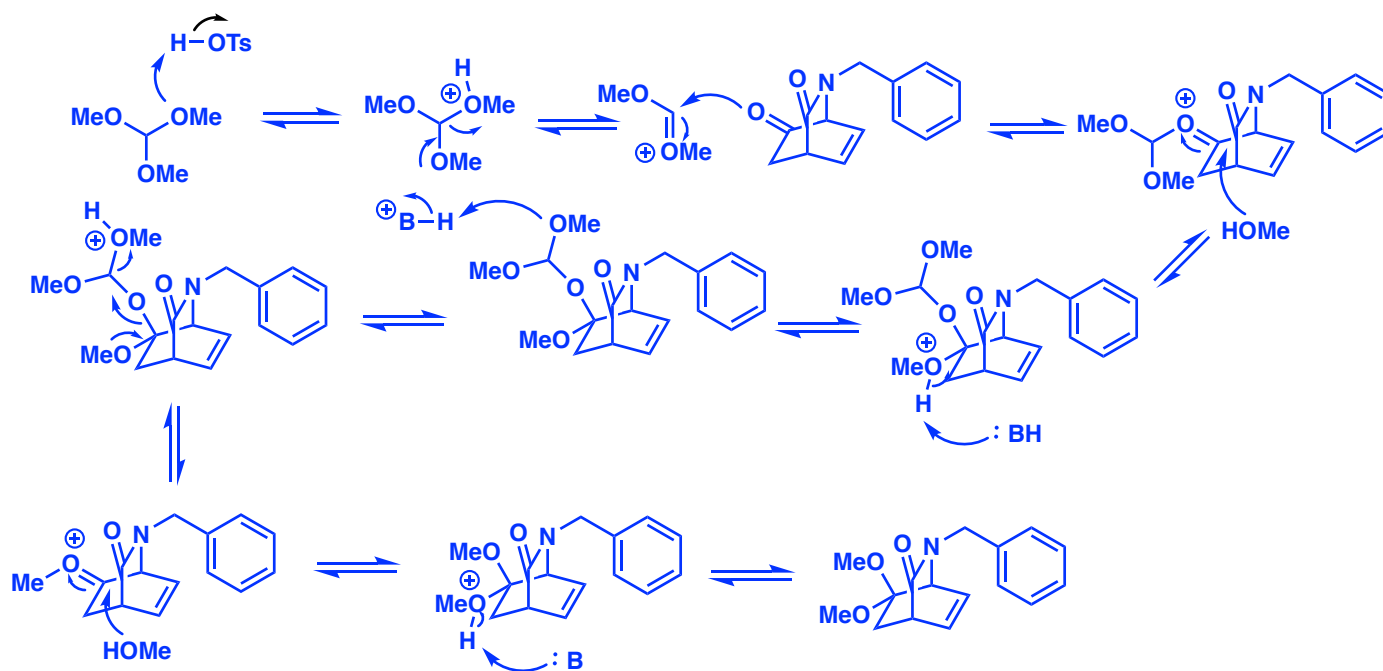


Problem Set 8 Answer Key  
CHM 2211

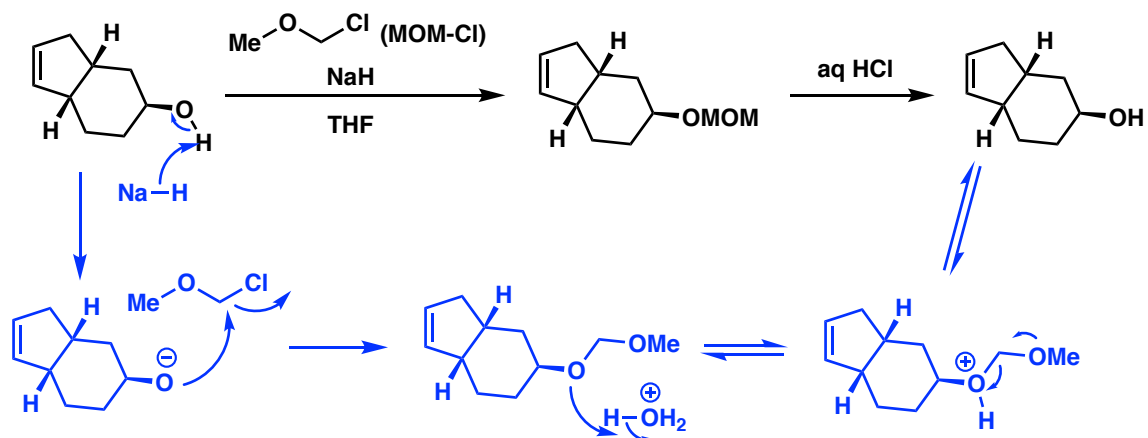
1. a. Provide a mechanism for the following transformation.



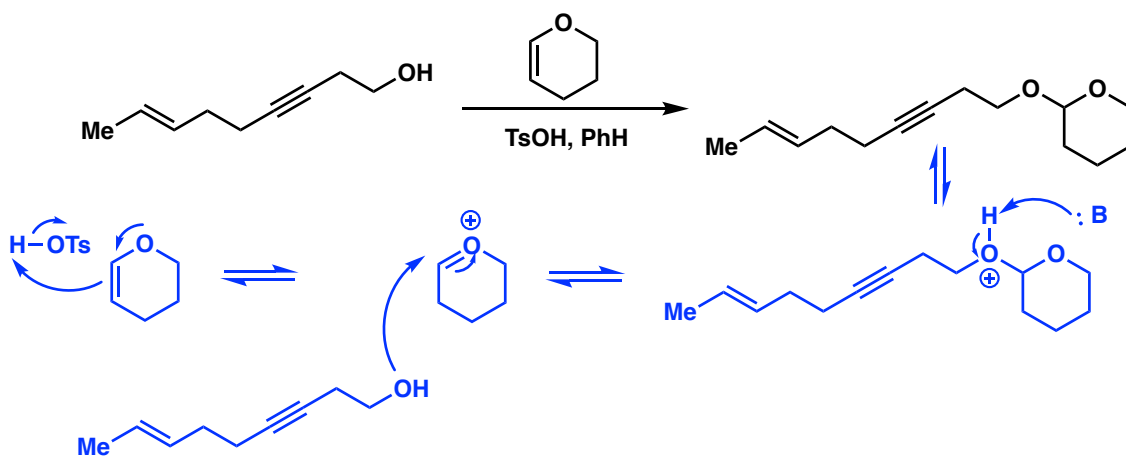
Hint: Start your mechanism by first protonating the orthoformate **A**



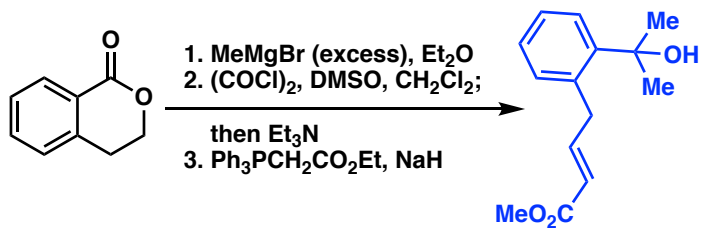
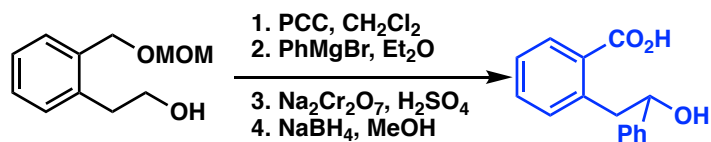
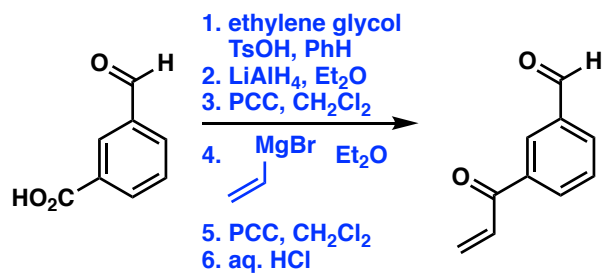
b. The MOM protecting group is a group that is common for the protection of alcohols. Provide mechanisms for its introduction and removal given the following sequence.



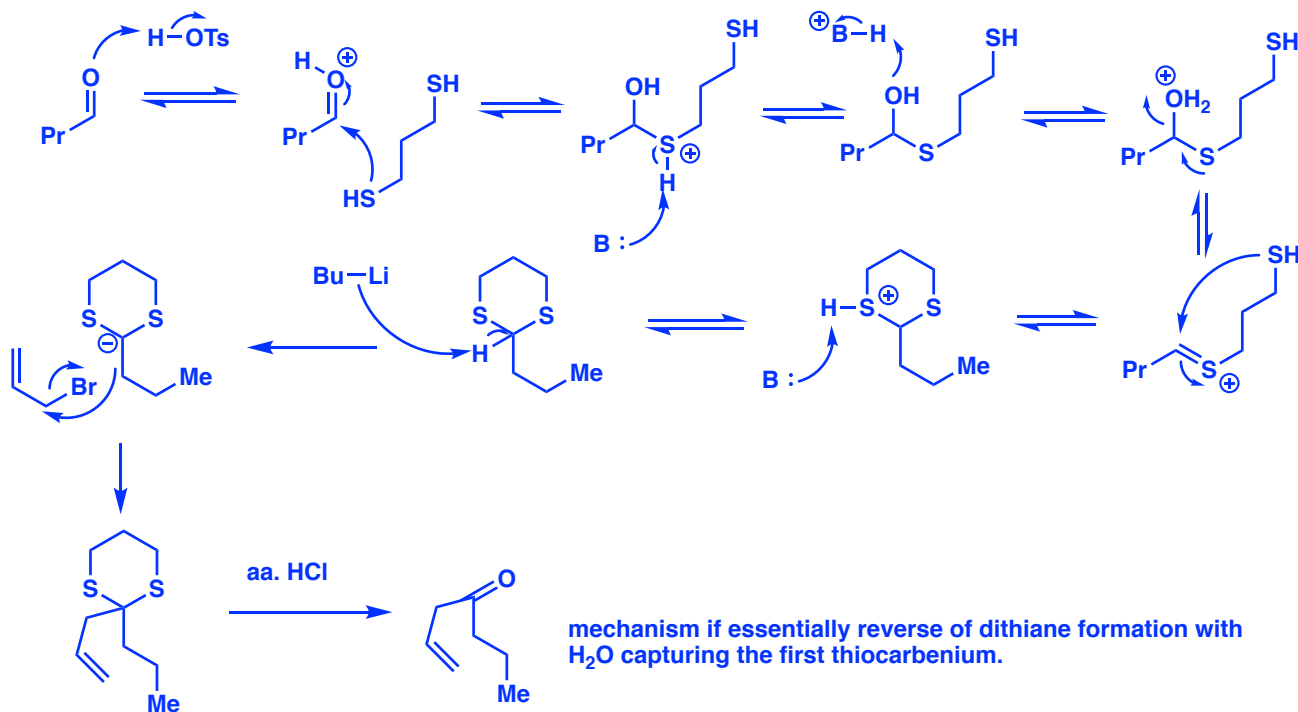
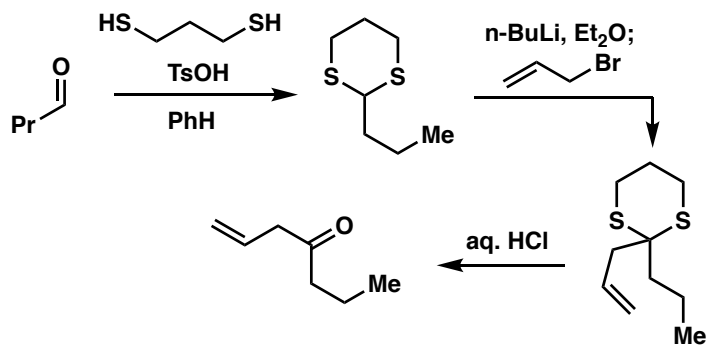
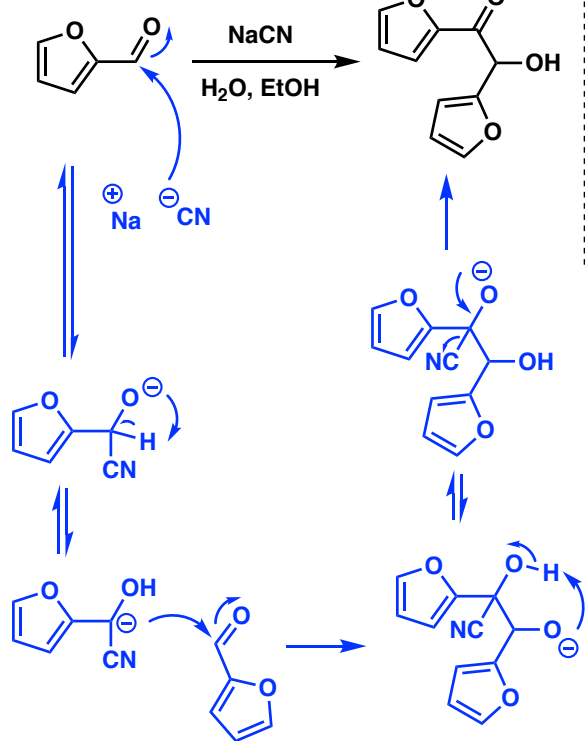
c. The THP protecting group is another fairly common group for masking alcohols. Provide a mechanism for this reaction.



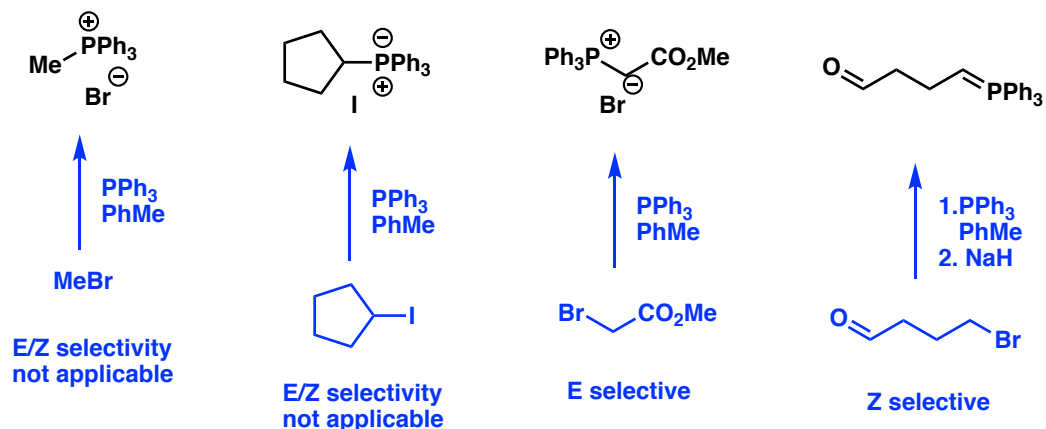
2. Provide reagents and/or products to the reactions below.



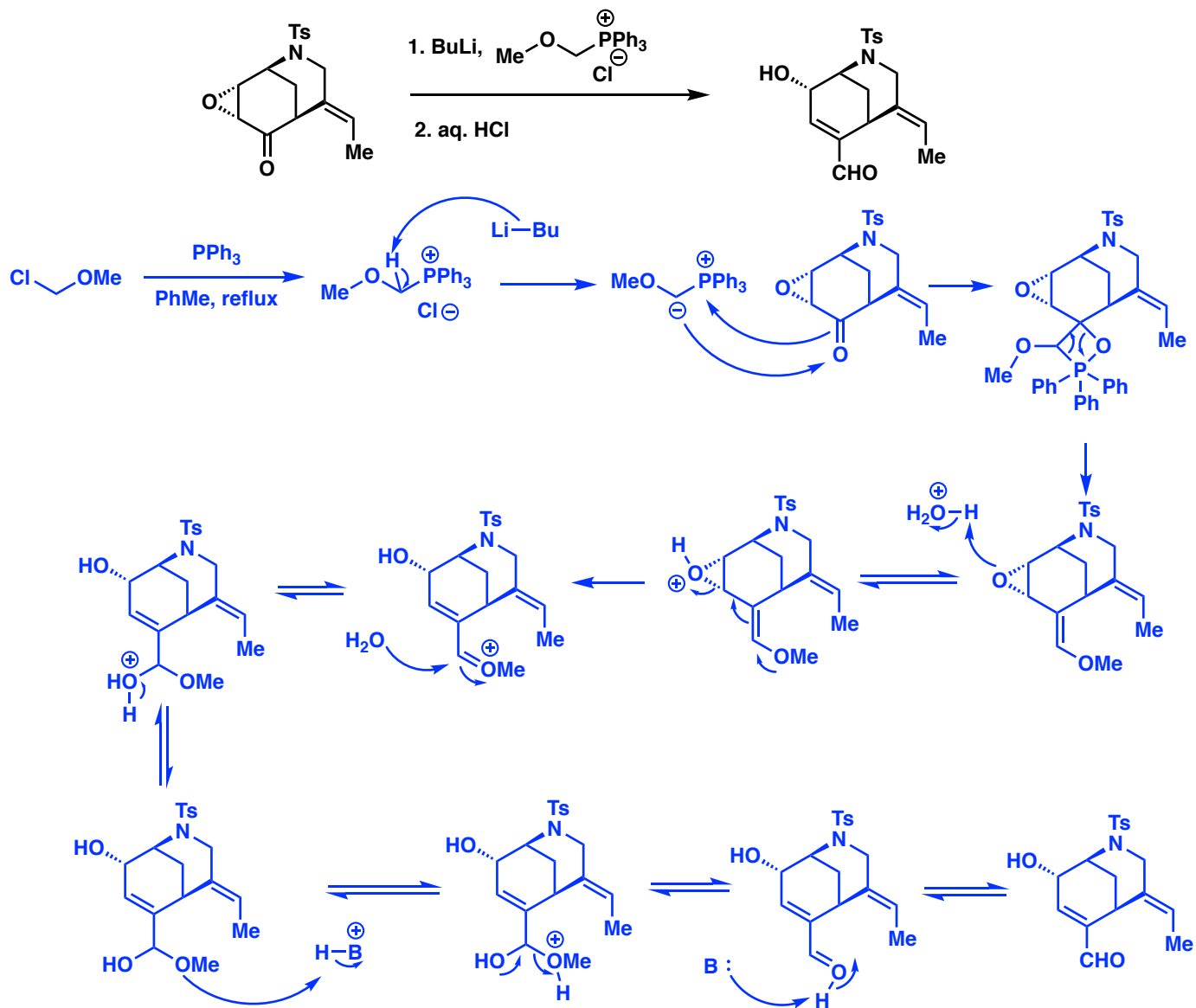
3. The utilization of cyanohydrins and dithianes to perform umpolung reactions has become a mainstay in organic chemistry. Provide mechanisms for the following reactions.



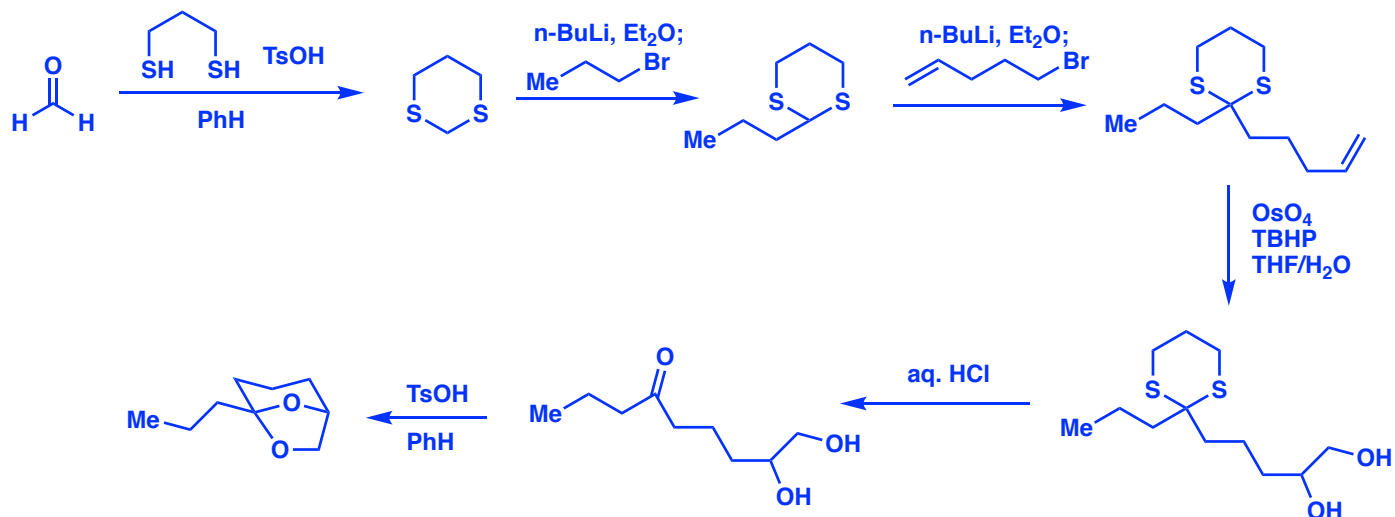
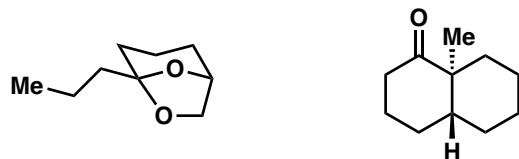
4. a. Provide a starting material and reagents to forge the following Wittig reagents. Also determine whether they are likely to give E or Z products in the event of a reaction with an aldehyde.



b. Some Wittig reagents provide extra functionalization. Provide a synthesis of the Wittig reagent shown and then show a mechanism for the transformation given.



5. Provide a forward synthesis of the following compounds from units of 3 carbons or fewer (a retrosynthesis will help you!!).



Synthesis of CH2=CHCH2CH2CH2Br

