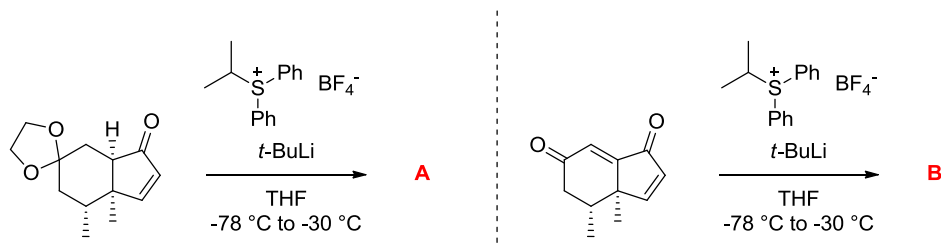
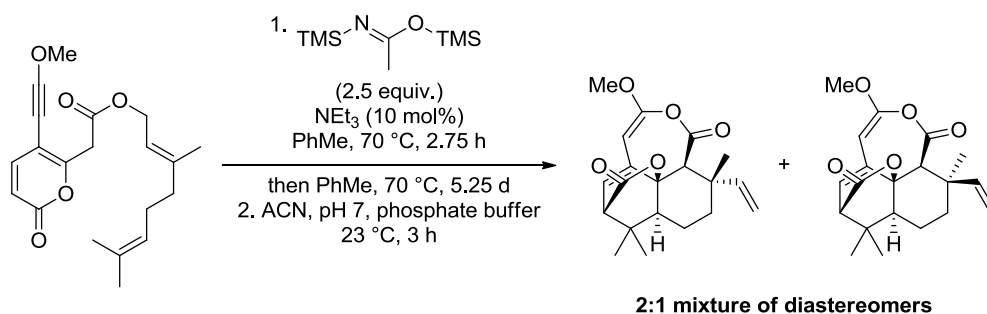


EAA Group Problems - 21/10/14

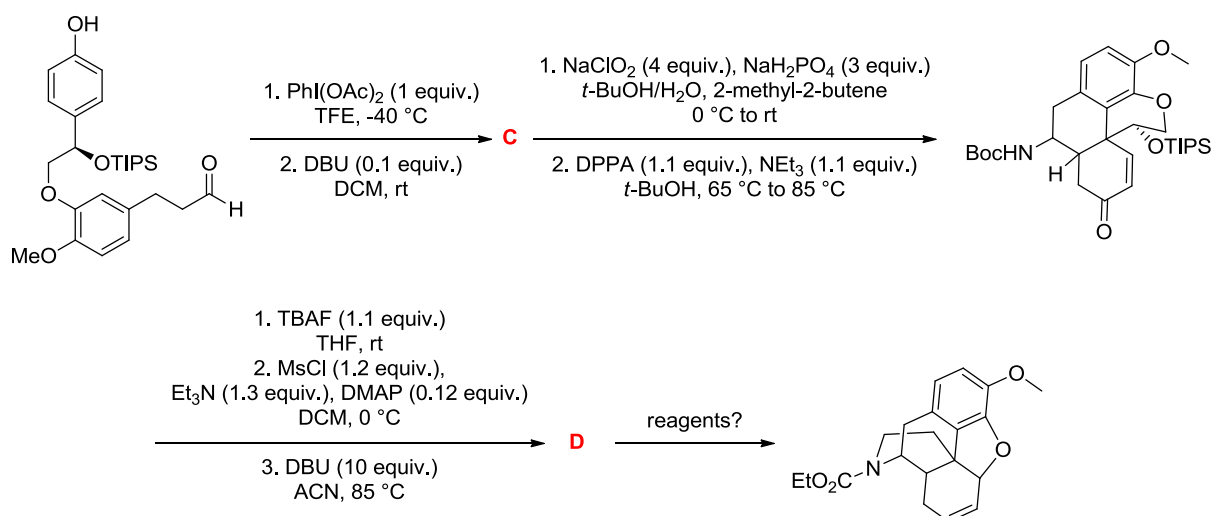
Problem 1. Please identify the structure of compounds **A** and **B**, and provide a mechanism for their formation.



Problem 2. Please provide a mechanism for the formation of the mixture of diastereomers depicted below. Note that this is a one-pot process, the reaction mixture being concentrated to dryness after step 1 to remove volatile compounds before adding acetonitrile and phosphate buffer for step 2.



Problem 3. Please identify the structures of intermediates **C** and **D**, provide reagents where required, and give mechanisms and stereochemistry of the resulting products for every step.



Problem 4. Please provide mechanisms for the syntheses of both the intermediate and the final product.

