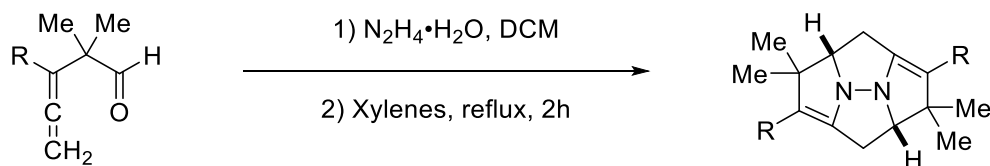
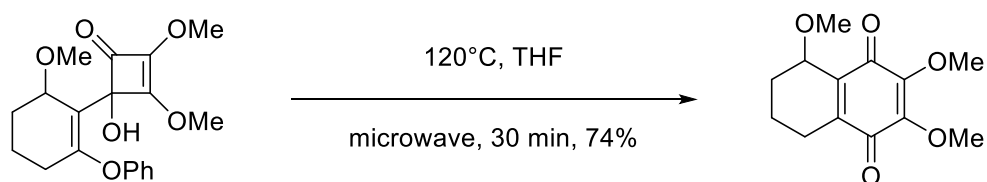


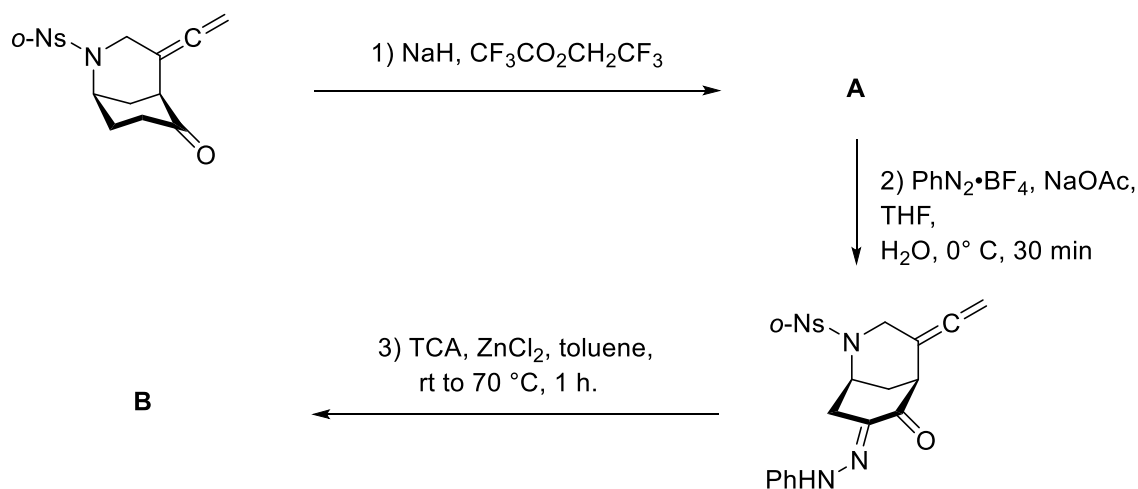
1. Suggest a mechanism for the following reaction sequence (*Eur. J. Org. Chem.* **2005**, 2548):



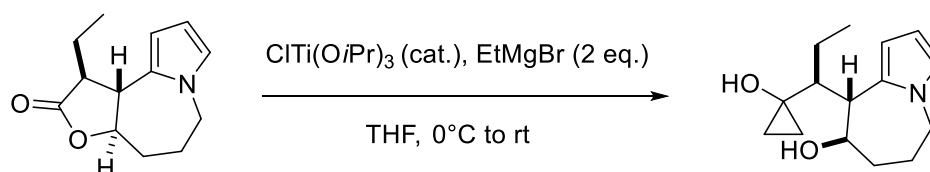
2. Provide a mechanism that accounts for the formation of the product (*Angew. Chem. Int. Ed.* **2007**, 46, 425-428):



3. For the synthesis of (+)-Geissolosimine (*Nat. Chem.* **2023**, 15, 1074). Provide a mechanism for the following transformations, giving the structures of **A** and **B**:

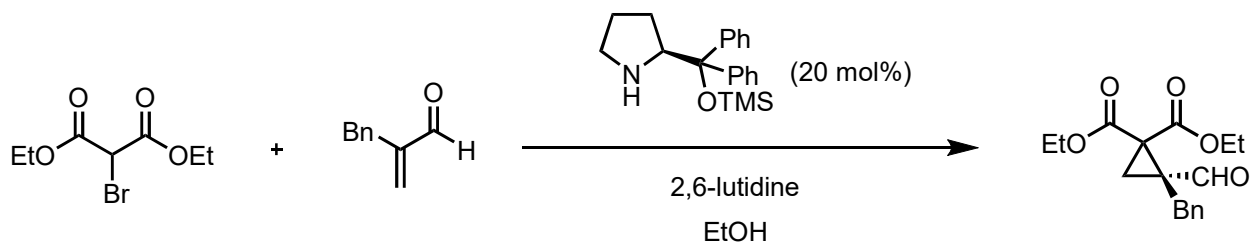


4. For the synthesis of Bisdehydroneostemoninine (*Angew. Chem. Int. Ed.* **2018**, 57, 15209). Suggest a mechanism for the following transformation:



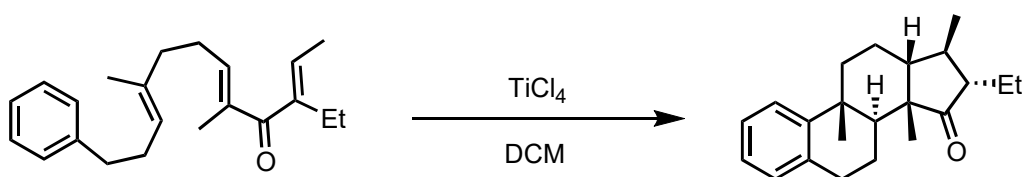
**Problem session - 24 Mar 2026**

(1)



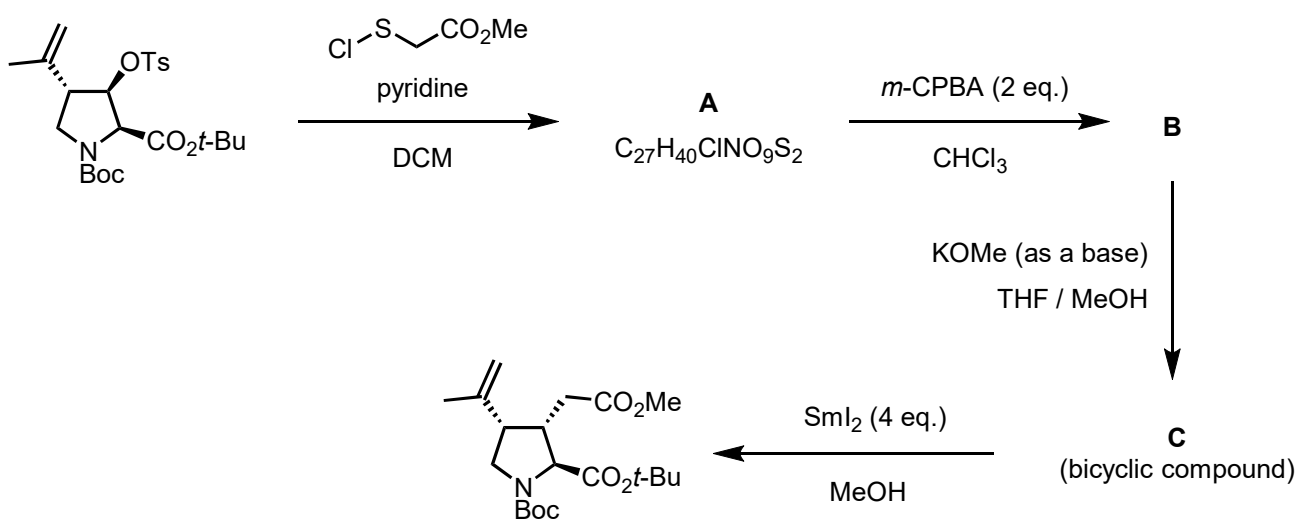
*Chem. Eur. J.*, **2010**, *16*, 7875–7880

(2)



*J. Am. Chem. Soc.* **1999**, *121*, 7443

(3)



*J. Org. Chem.* **1997**, *62*, 1896