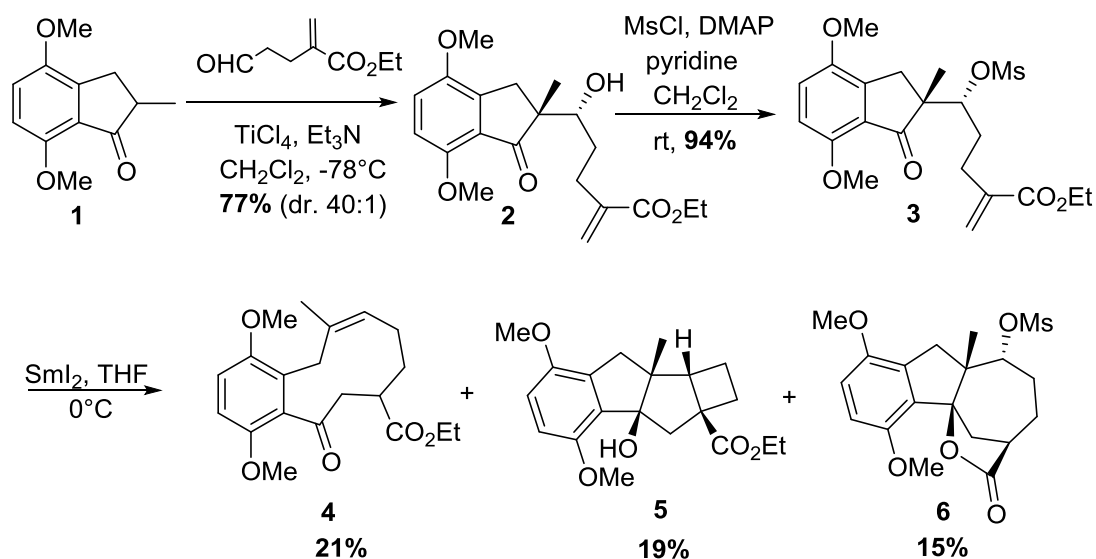


## EAA Group Problems

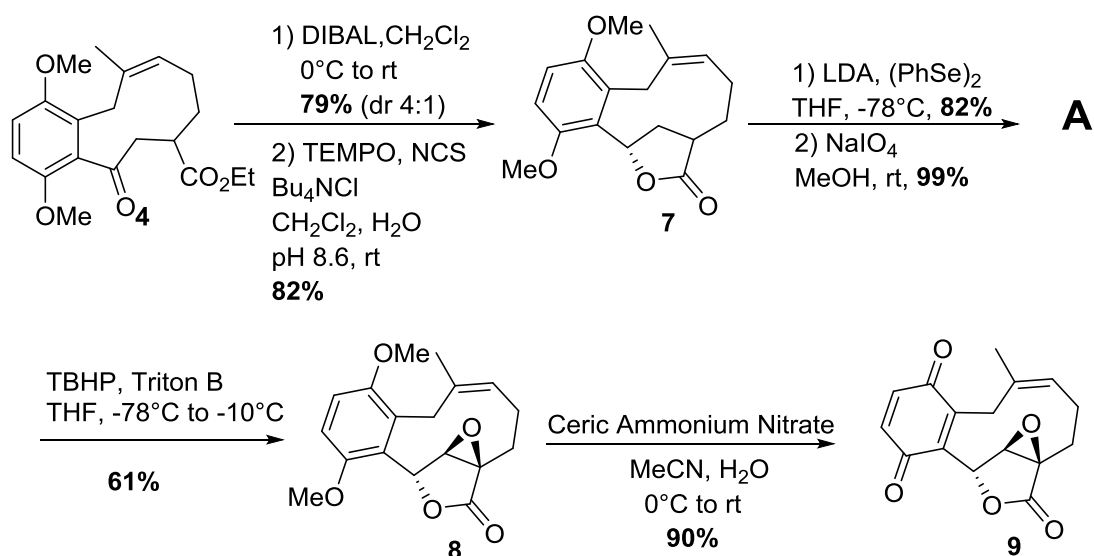
27/01/15

1)

Suggest mechanisms, a structure for **A** and account for the observed stereochemistry in the following sequence.

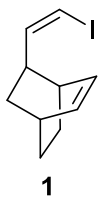


Addition of 20 Eq. of  $\text{NEt}_3$  increases the yield of **4** to 41% and **6** to 29%. **5** is no longer detected. Suggest an explanation for this observation.

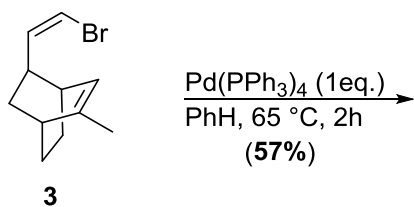
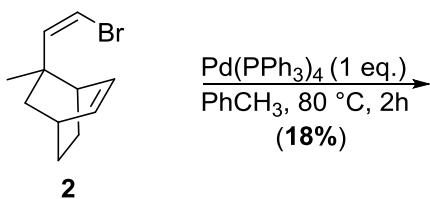


2)

Suggest a synthesis for compound **1**.

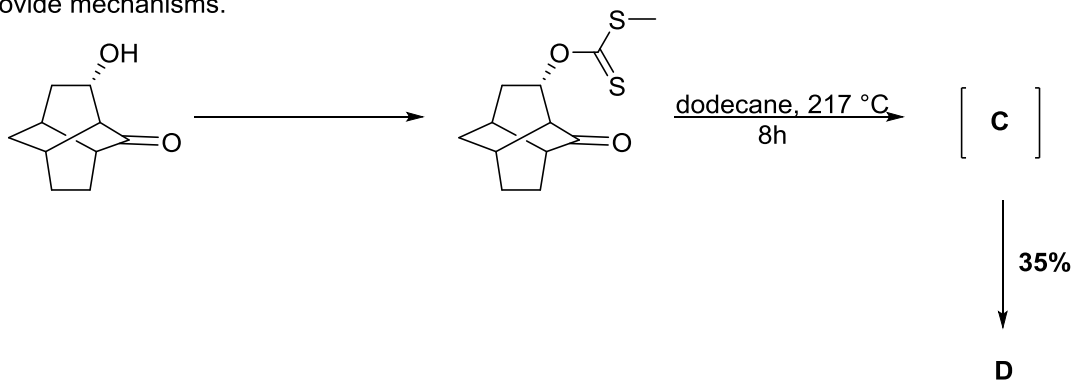


Predict the structures of **A** and **B** generated from related compounds **2** and **3**.

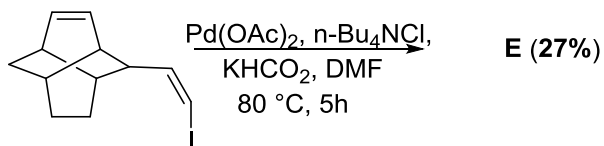


*Hint: They contain Pd*

Suggest reagents for the first step in the following scheme, identify intermediate **C**, product **D** and provide mechanisms.

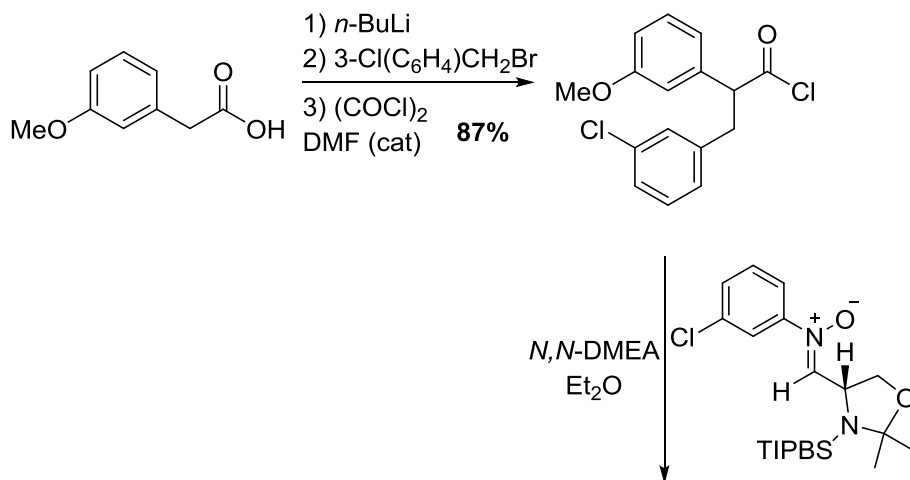


Identify product **E**, suggesting a mechanism for its formation.

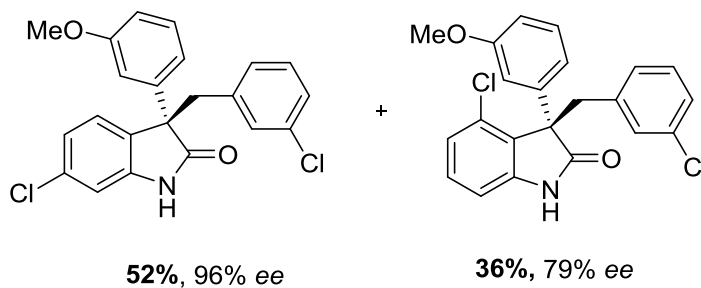


3)

Suggest mechanisms for the transformations depicted.



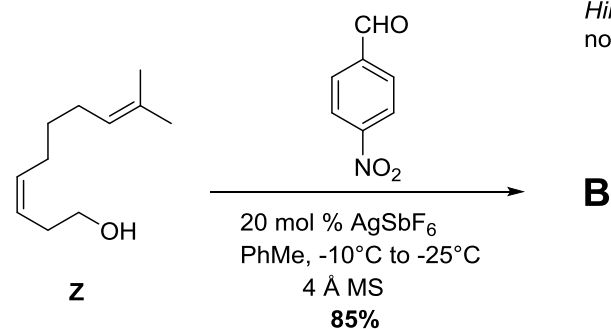
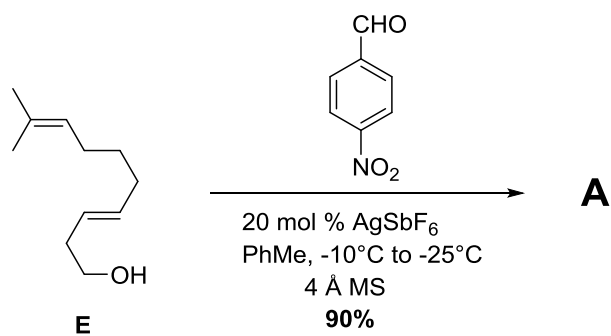
TIPBS=2,4,6-triisopropylbenzenesulfonyl



Separable by column chromatography

4)

Predict the structures of compounds **A** and **B** including a mechanistic explanation.



*Hint: Both products contain a double bond, but not necessarily the same type!*