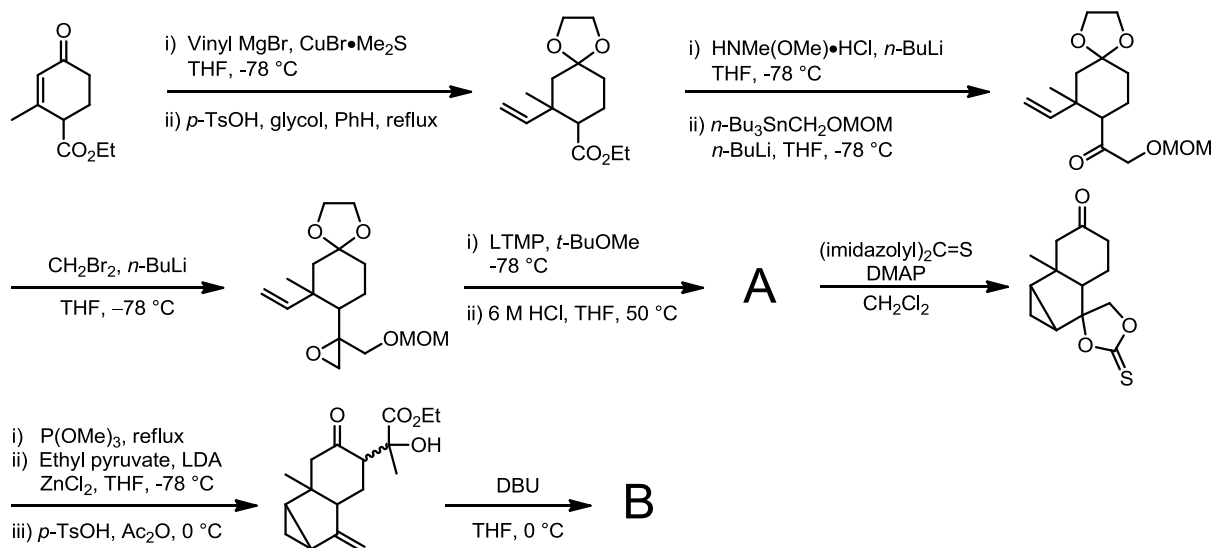


I got 99 problems but organic chemistry ain't one  
 18th of November, 2014  
 Haraldur Gunnar Guðmundsson

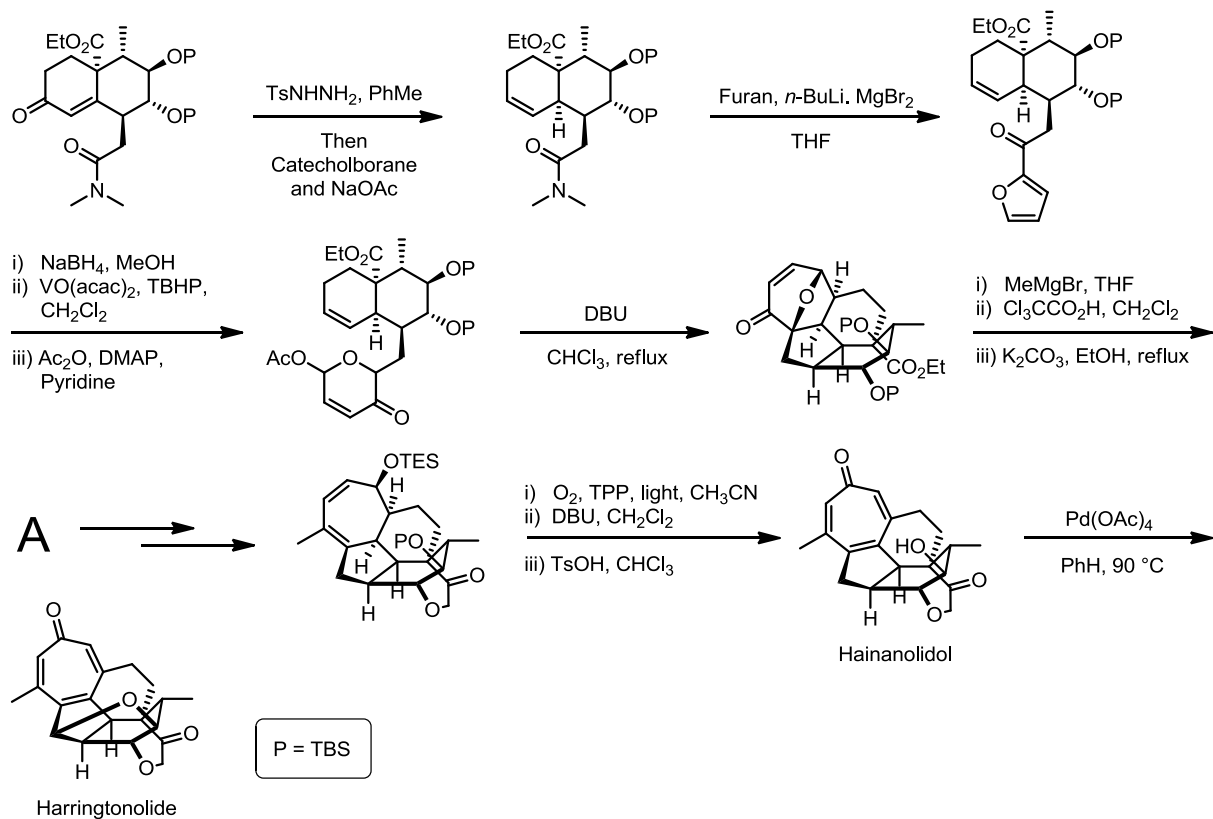
**Problem 1**

Please provide mechanism and stereochemistry for the following transformations. Identify intermediate **A** and product **B**. The cyclopropanation step is a well known named reaction originated here at Oxford!!! (1 person)



**Problem 2**

Provide the mechanism and stereochemistry (where appropriate) for the synthesis of both Hainanolidol and Harringtonolide. Identify intermediate **A**. (2 persons, change after the key cycloaddition)



### Problem 3

Provide the mechanism and stereochemistry (with reasoning!) for the following sequence. (1 person)

