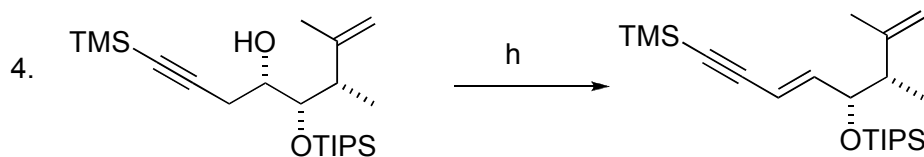
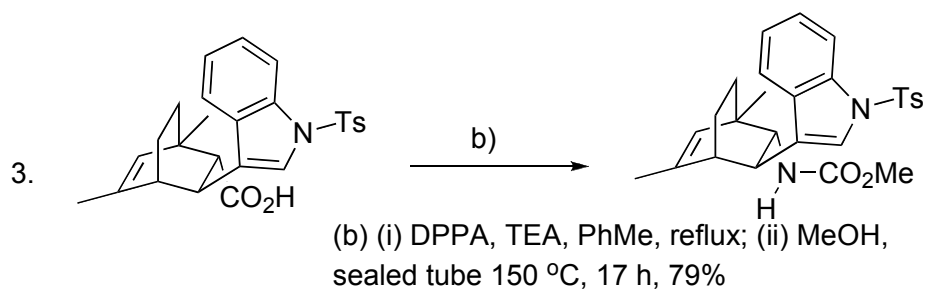
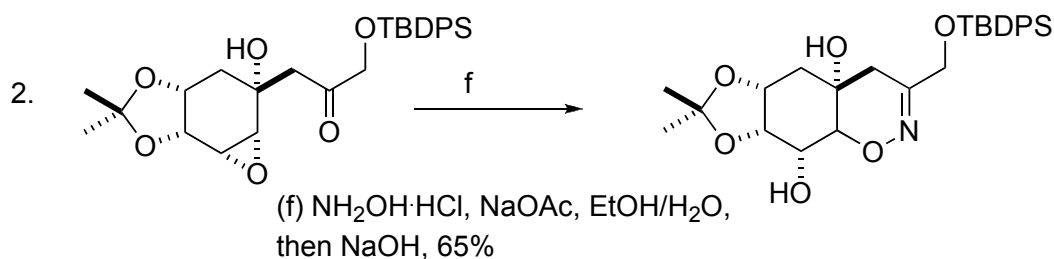
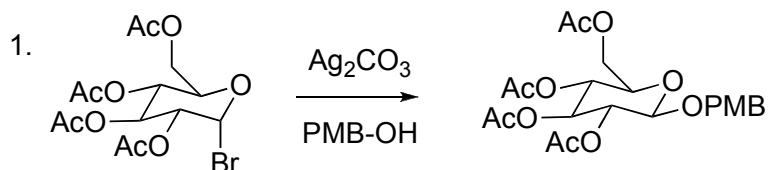


Exam #1

This is an open-book, open-notes exam. You make take up to three hours. For each transformation shown, draw detailed arrow-pushing mechanisms for each step, including the explicit chemical structure of every reactant and reagent shown (show every heavy atom- H's not required), all stereochemistry, and all the organic products of each reaction. The abbreviations are exactly as they appear in the publication.

Each problem is worth twenty points.



(h) 3.0 equiv of PPh_3 , 3.0 equiv of diisopropylazodicarboxylate, toluene,
80 °C, 20 min, 8:1 *E/Z*, 75%

