



CHEM 8410_6410_4410 – Organic Synthesis

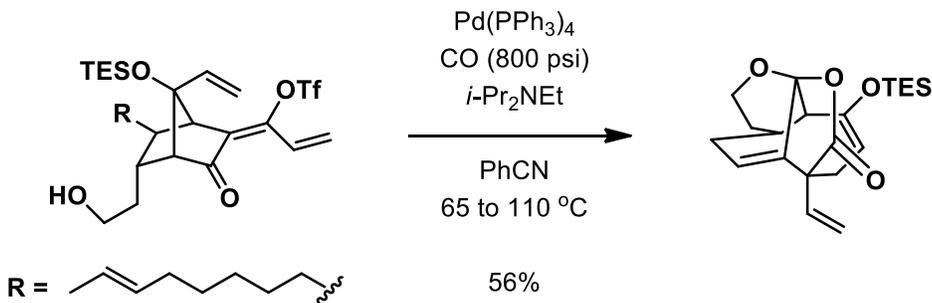
THE UNIVERSITY OF
TOLEDO
1872

Problem Set 5: This problem set is now available at (www.blackboard.utdl.edu). It will be due in class 14 days (04/26/18) from today (04/12/18). Grades will be administered as follows: 10 (exceptional effort), 8 (complete), 5 (incomplete or inadequate effort), 2 (poor effort), 0 (nonexistent). **No late problem sets will be accepted.**

1. **Problem:** Please provide a mechanism that accounts for the illustrated transformation.



2. **Problem:** Please provide a mechanism that accounts for the illustrated transformation.



3. **Problem:** The following multicomponent coupling cascade reaction is elegant for its simplicity and ability to generate 6,6-fused as well as 5,6-fused ring systems. E. Karimi et al. published this work in *Tetrahedron Lett.* **2008**, 49,6433. Please provide A) the mechanism for its transformation and B) provide an argument that accounts for the origin of diastereoselectivity.

