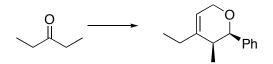
Chem 634 Problem Set 5 **due 12 pm** Thursday April 15 Prof. Fox

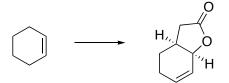
your name _____

Literature references are required only for steps 1 and 2

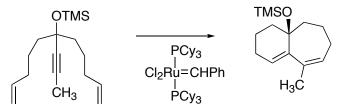
1. Provide a multistep synthesis- usual rules apply



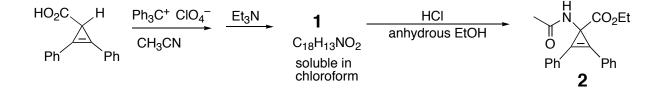
2. Provide a multistep synthesis- usual rules apply



3. Provide a mechanism



4. Provide a structure and mechanism for the formation of **1** and a mechanism for its conversion into structure **2**.



5. Follow the instructions for Database Tutorial 6. Find another set of conditions that does not use a Ru catalyst for the oxidation of phenyl to give an amino acid.