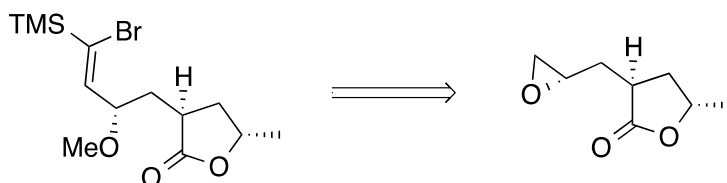


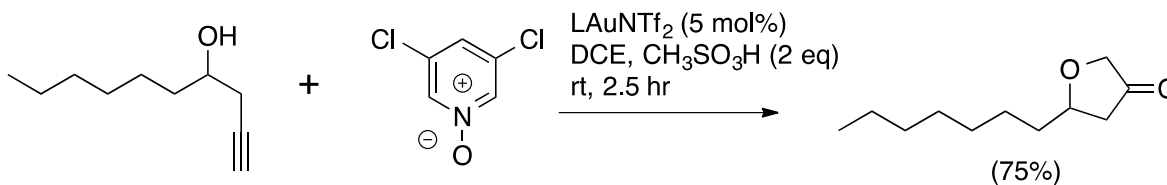
Exam #3 – Extra Credit Problems: NAME: _____

Due Dec. 13, 10 am – Room SCI 109

1) Vinyl halides, such as vinyl bromide **1**, are valuable synthetic intermediates since they can be used in various carbon-carbon bond constructions to increase molecular complexity. Beginning with epoxide **2**, and any other reagent, how would you make vinyl bromide **1** in the stereochemistry shown (minimum five steps)? (15 pts)



2) What's the mechanism of the following reaction? (Note: Au has Au(I) and Au(III) oxidation states). (12 pts)



L = PPh_3 [just a ligand for the Au(I)]
DCE = 1,2-dichloroethane, the solvent
 $\text{CH}_3\text{SO}_3\text{H}$, $\text{pK}_a = -2$

$\text{NTf}_2^- = \text{F}_3\text{CO}_2\text{S}^- \text{N}^+ \text{SO}_2\text{CF}_3$
(a very weak base)

Staple your answers to this sheet!