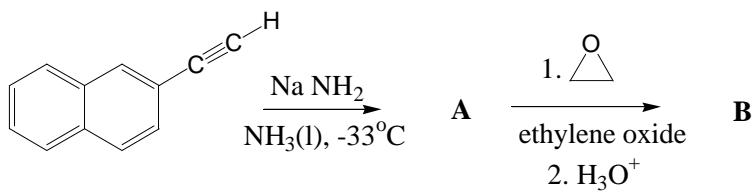
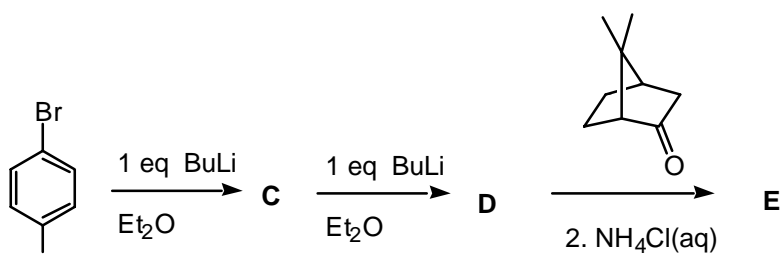


Problem Set 1

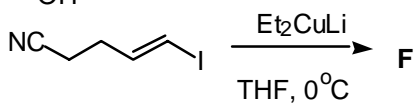
1. Draw products of the following reactions.



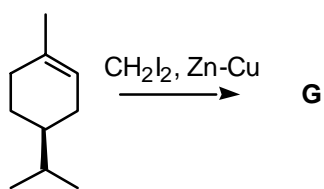
2.



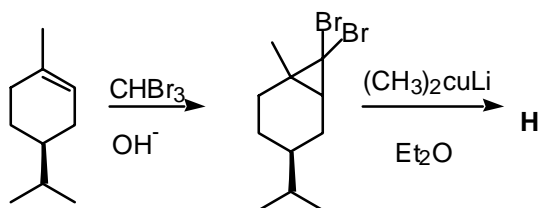
3.



4.



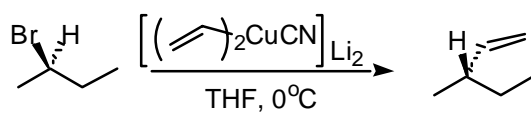
5.



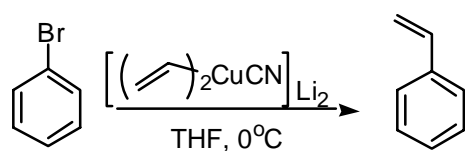
How would you distinguish between products **G** and **H**?

6. Propose a reasonable mechanism for the following reactions.

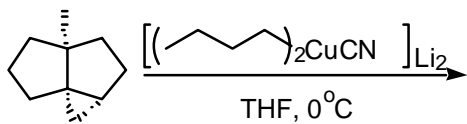
a)



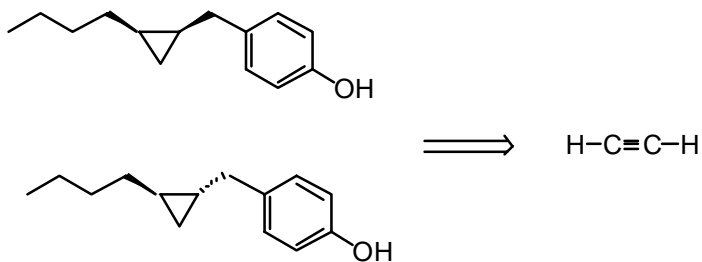
b)



7. Predict the product of this reaction and briefly explain. Pay attention to regio- and stereo-chemical issues.



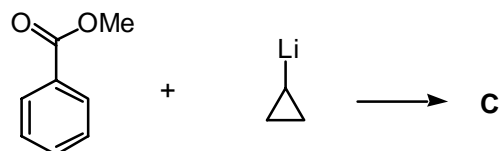
8. Synthesize molecules **1** and **2** in the most efficient way (both are hot leads in a pharmaceutical firm X) from acetylene (C_2H_2).



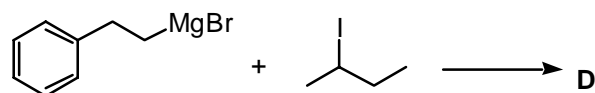
9.a)



b)



c)



10. Transform bromobenzene to compounds **1** and **2**.

