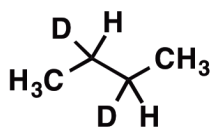
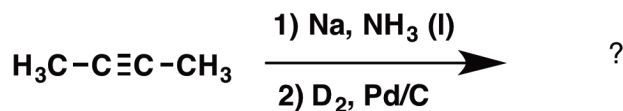


Alkyne Exam Preparation Pack

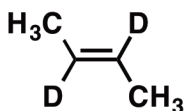
Essential Alkyne Practice Exam Problems

Multiple-Choice #1: What is the major product of this reaction?

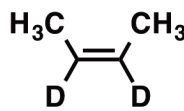
Link to answer video
<http://bit.ly/Alkynes-MOC-1>



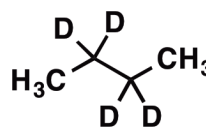
A



B



C

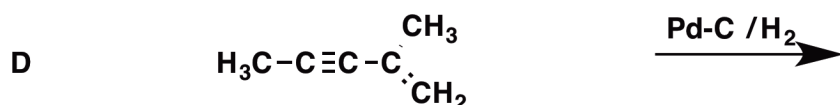
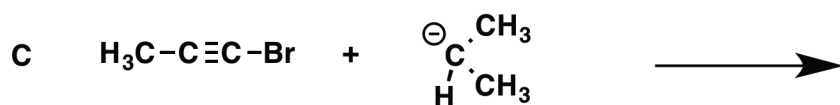
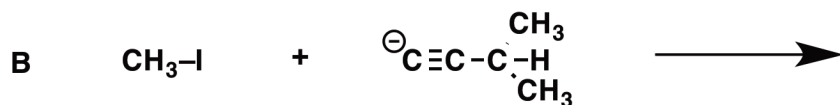
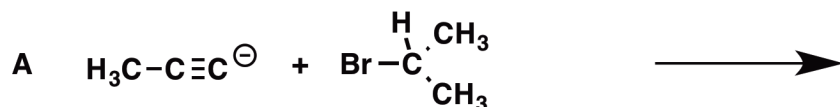
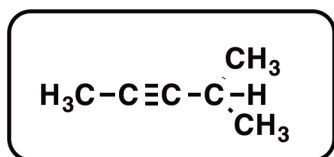


D



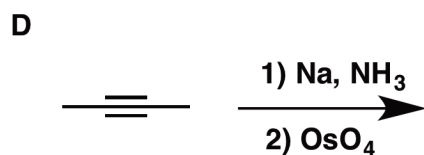
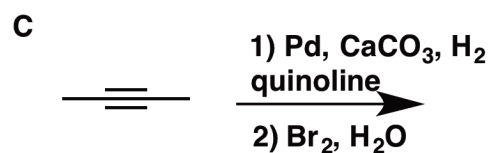
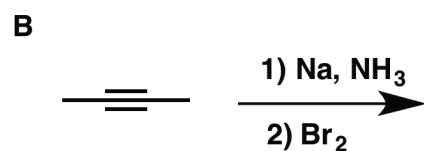
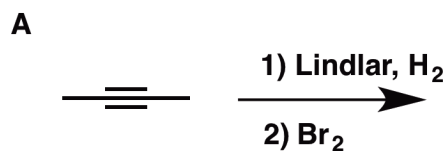
Multiple-Choice #2: Pick the best reaction conditions that will synthesize this alkyne

<http://bit.ly/Alkynes-MOC-2>



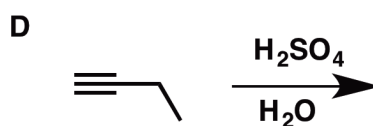
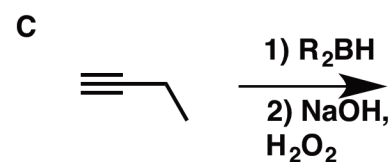
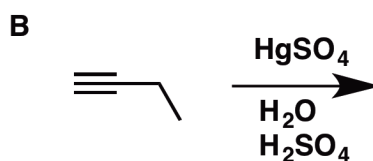
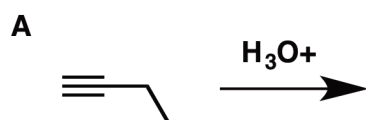
Multiple-Choice #3: Which set(s) of conditions produces a meso product from 2-butyne?

<http://bit.ly/Alkynes-MOC-3>



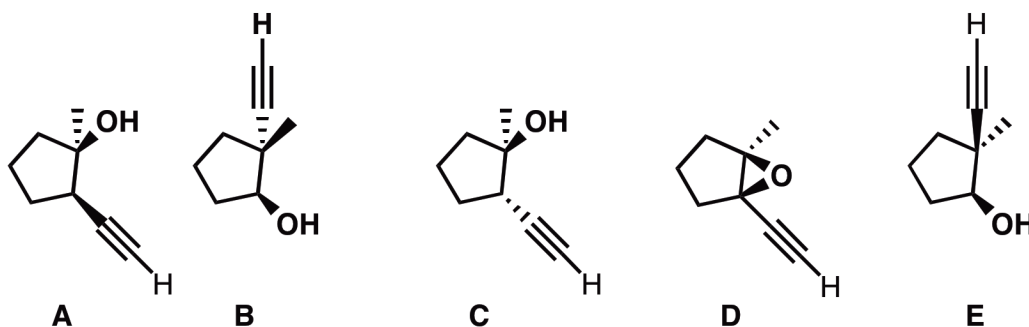
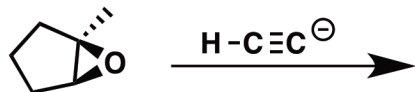
Multiple-Choice #4: Which of the following reactions does NOT give a ketone as a product ?

<http://bit.ly/Alkynes-MOC-4>



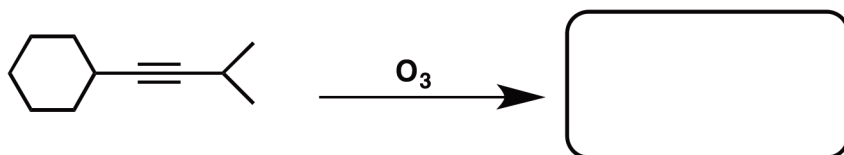
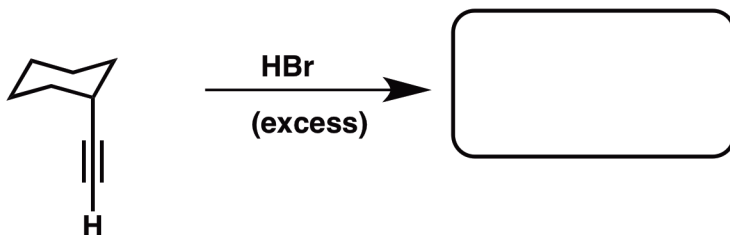
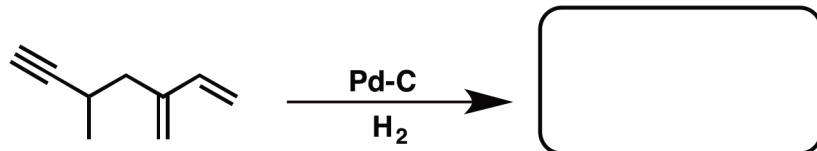
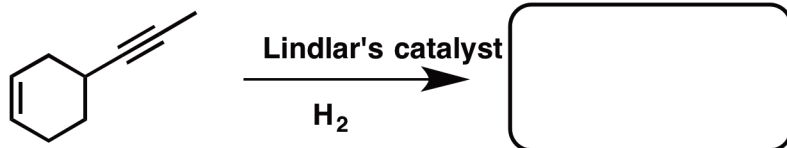
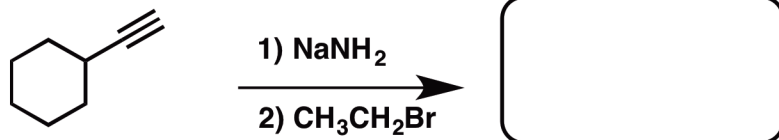
Multiple-Choice #5: [Assuming you have covered epoxides],
choose the major product

<http://bit.ly/Alkynes-MOC-5>



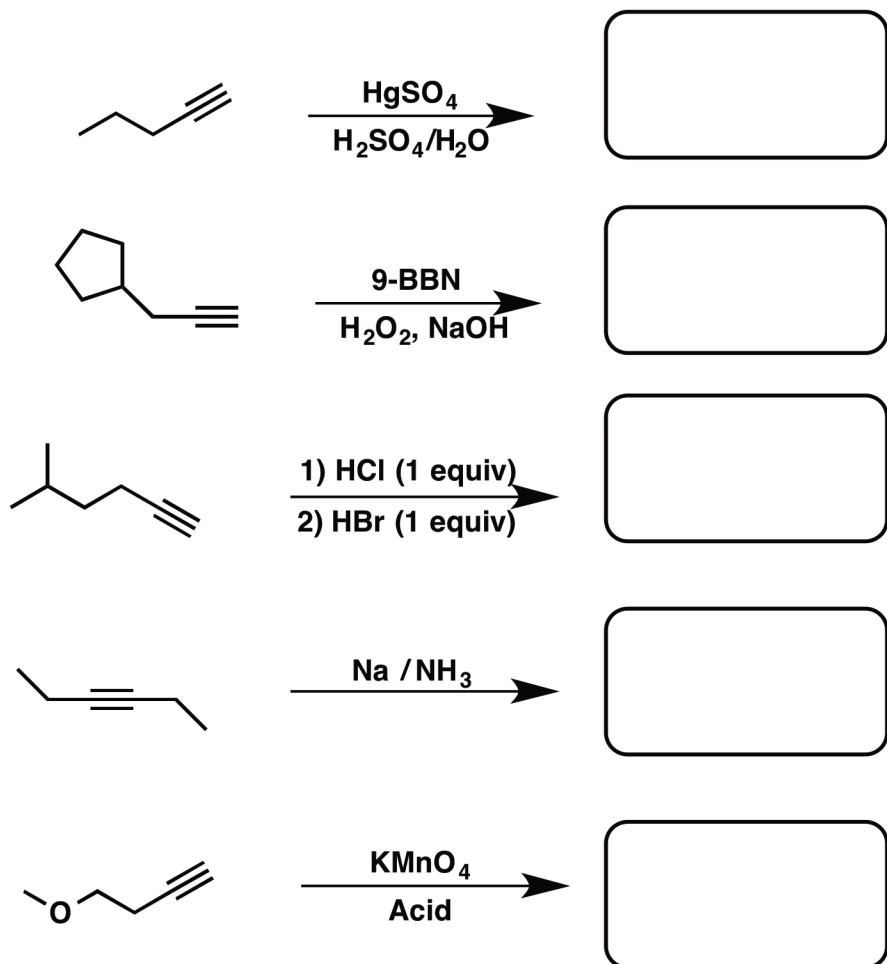
Fill In The Blanks #1:

<http://bit.ly/Alkynes-MOC-6>



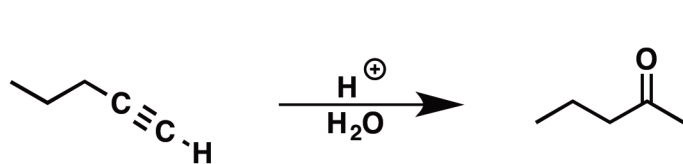
Fill In The Blanks #2:

<http://bit.ly/Alkynes-MOC-7>



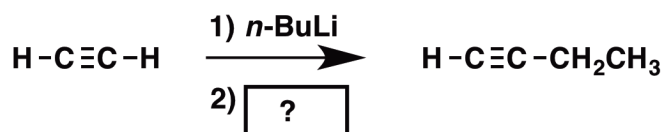
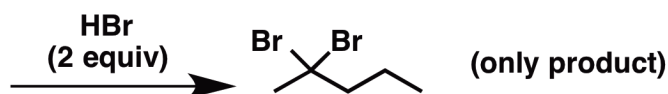
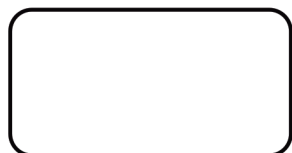
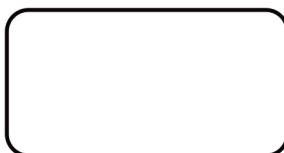
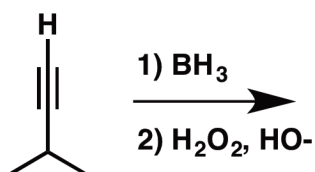
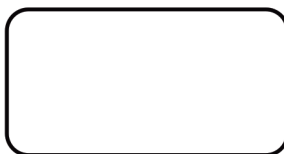
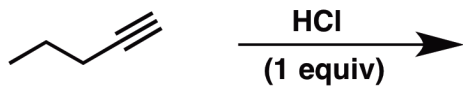
Mechanism#1. Draw a mechanism for the following reaction

<http://bit.ly/Alkynes-MOC-8>



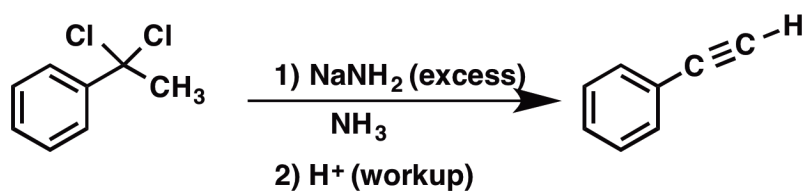
Fill In The Blanks #3:

<http://bit.ly/Alkynes-MOC-9>



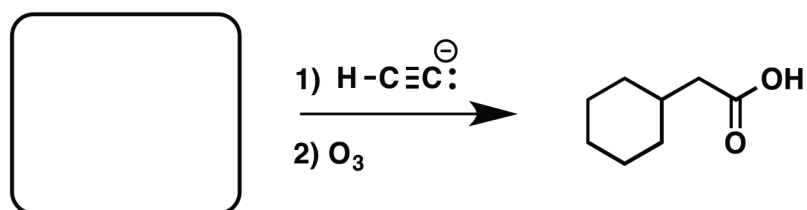
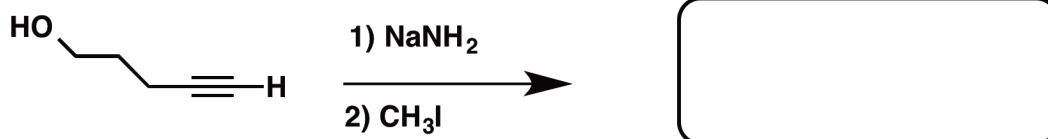
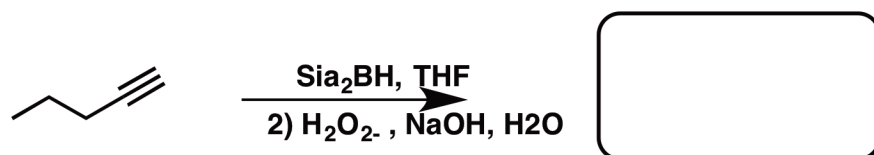
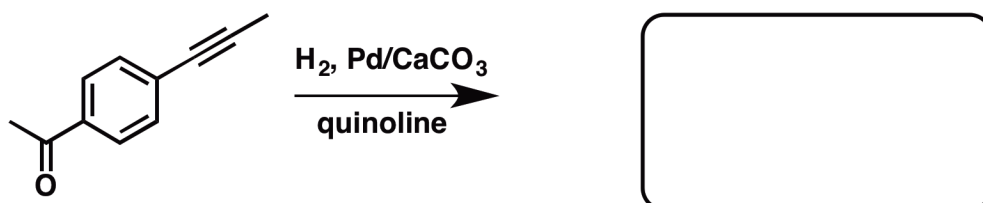
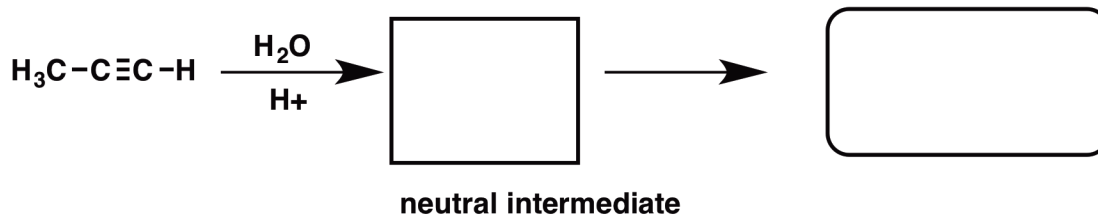
Mechanism problem #2:

<http://bit.ly/Alkynes-MOC-10>



Fill In The Blanks #4:

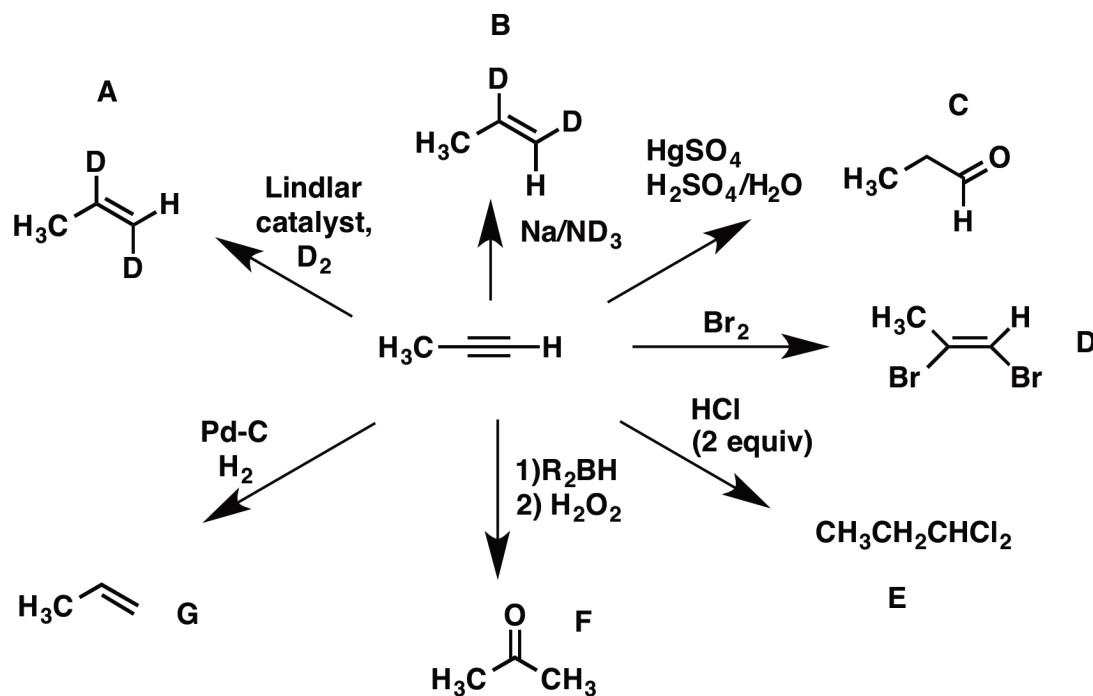
<http://bit.ly/Alkynes-MOC-11>



Correct The Mistakes. Each of the reaction schemes shown below is wrong in some fundamental way.

- 1) For each reaction, draw the product that should form instead
- 2) If there is a reaction that *should* form the product shown below, indicate it.

<http://bit.ly/Alkynes-MOC-12>



REACTION

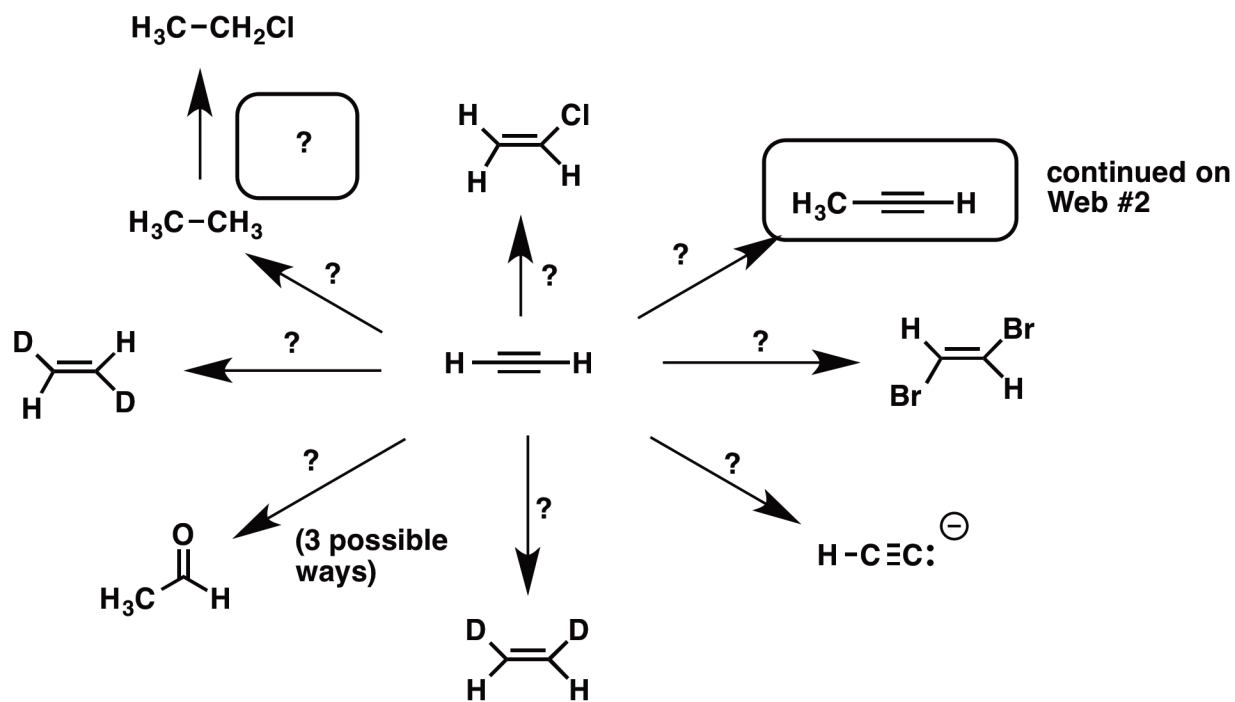
1) Correct product

2) Correct reagent

A
B
C
D
E
F
G

WEB OF REACTIONS: Question #1

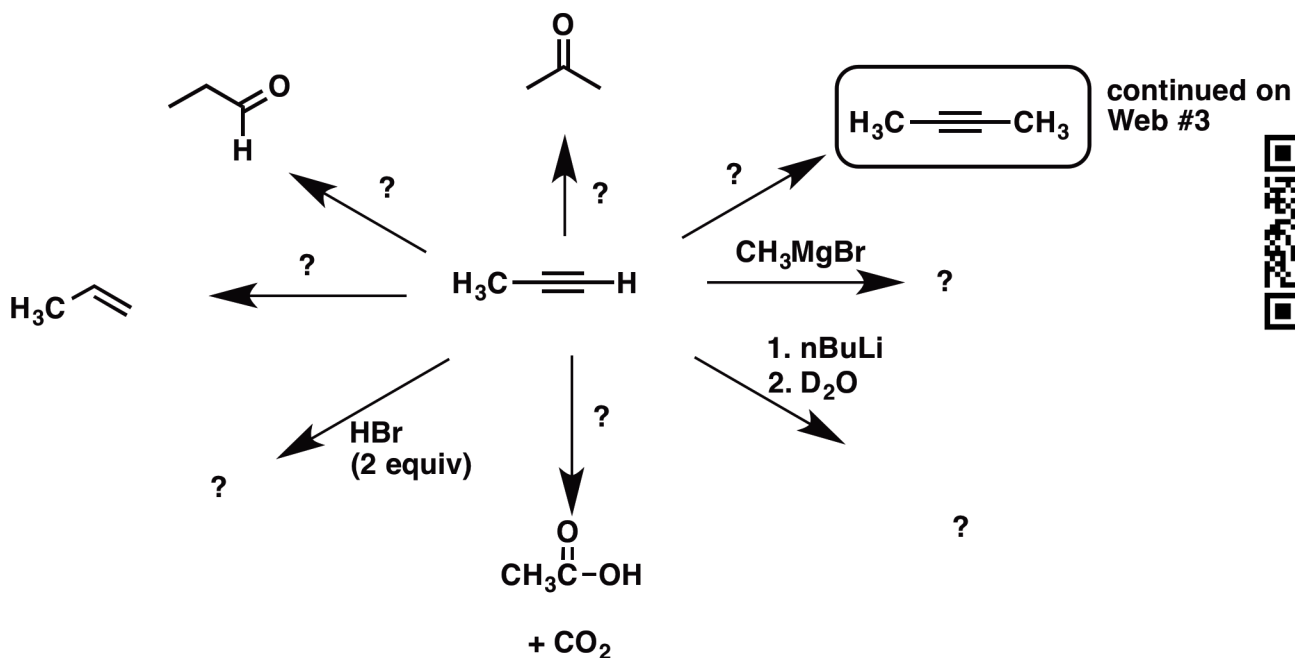
<http://bit.ly/Alkynes-MOC-13>



continued on Web #2

WEB OF REACTIONS: Question #2

<http://bit.ly/Alkynes-MOC-14>

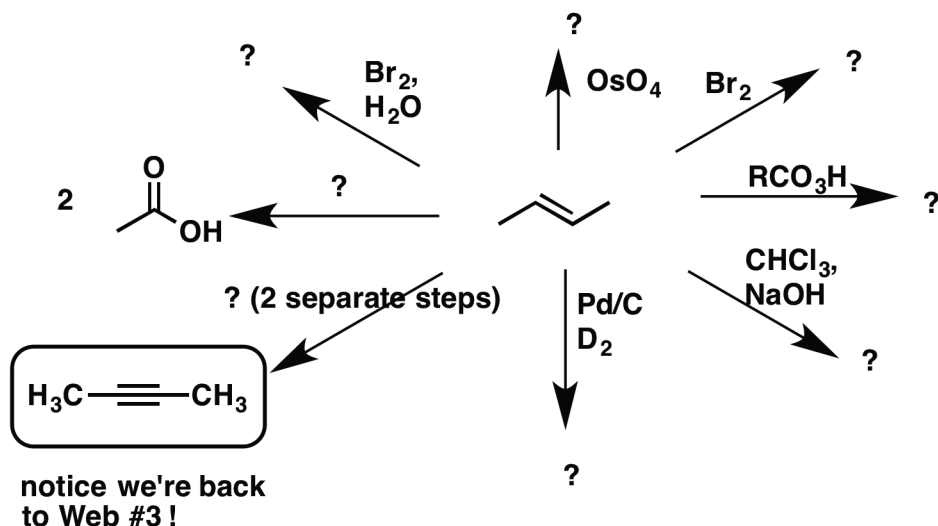


continued on Web #3

WEB OF REACTIONS: Question #5

<http://bit.ly/Alkynes-MOC-17>

pay close attention to stereochemistry!

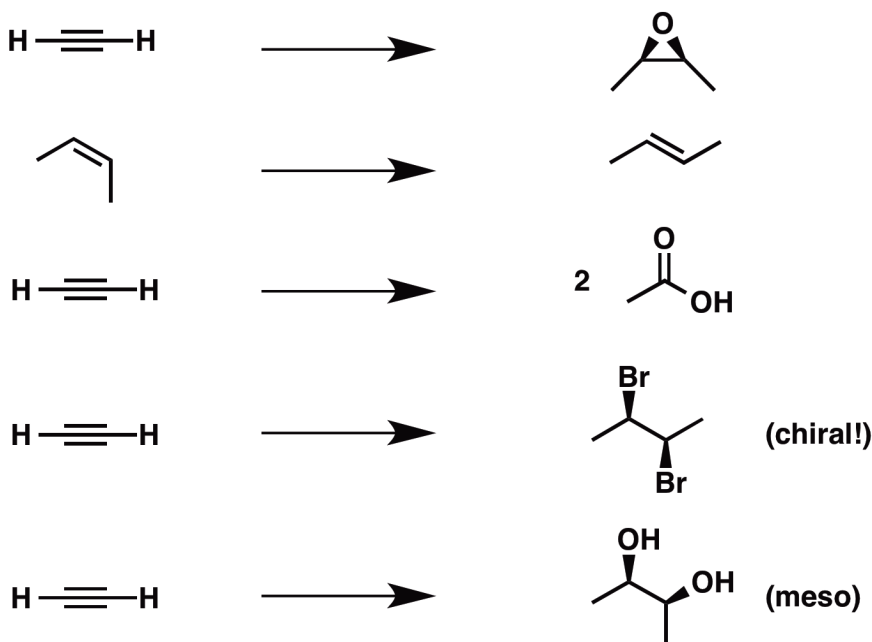


Bonus: which reactions produce chiral products?

Once you're done the Web Of Reactions...

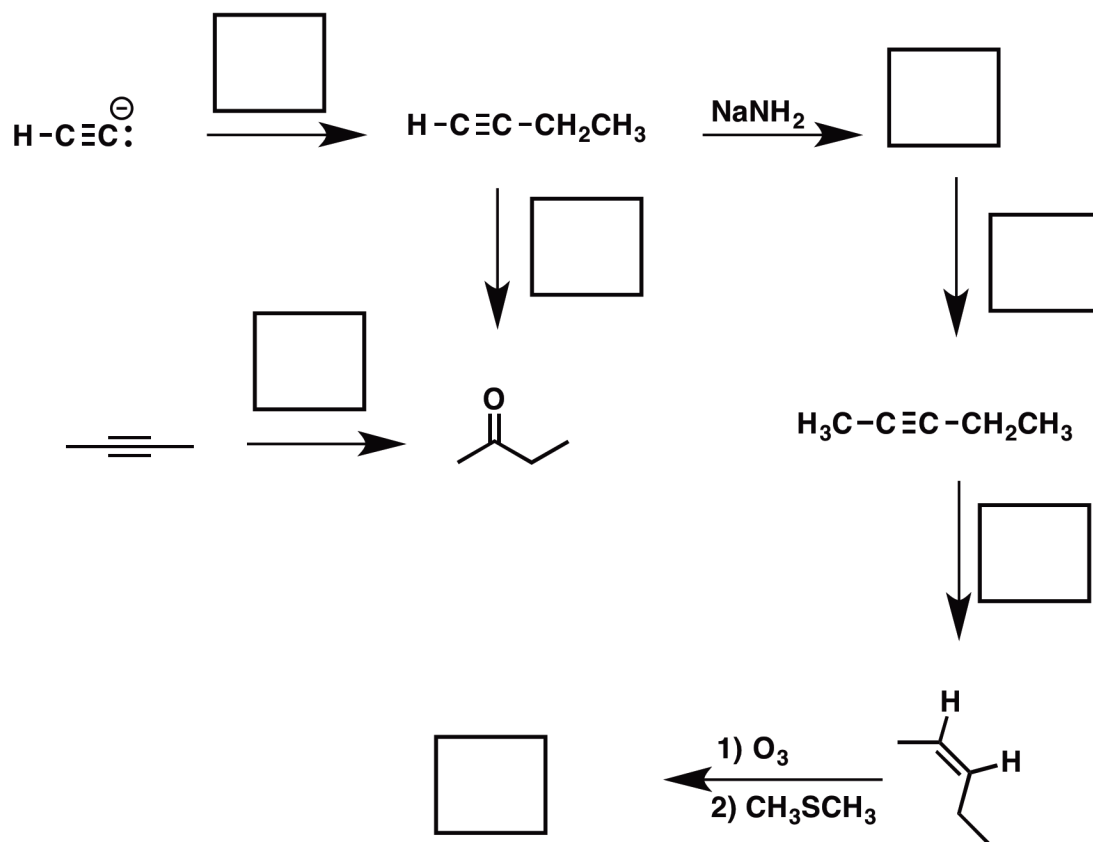
<http://bit.ly/Alkynes-MOC-18>

Outline the following syntheses: if you are successful, you are ready for synthesis!



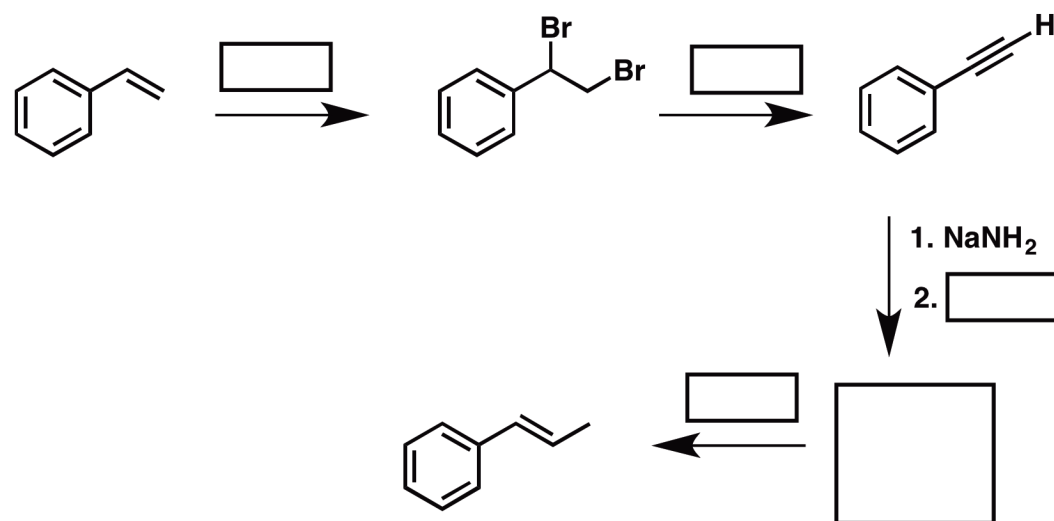
Road Map #1

<http://bit.ly/Alkynes-MOC-19>



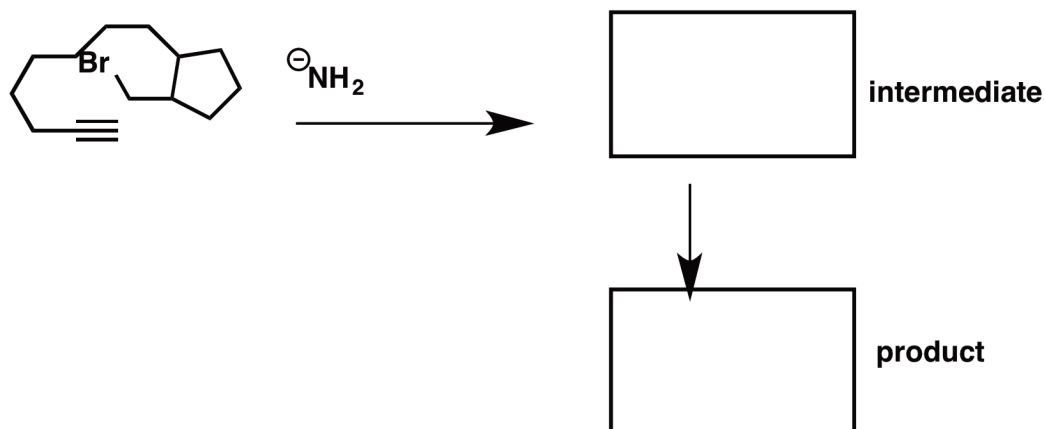
Road Map #2

<http://bit.ly/Alkynes-MOC-20>

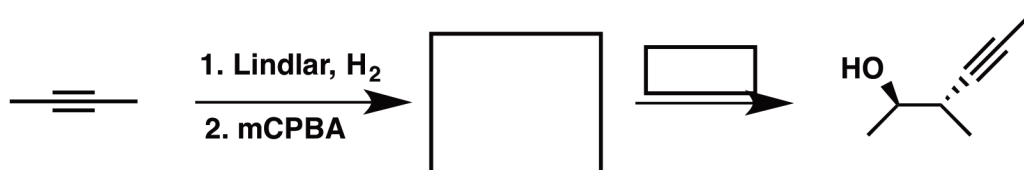


Roadmap #3 (Mini Roadmaps)

<http://bit.ly/Alkynes-MOC-21>



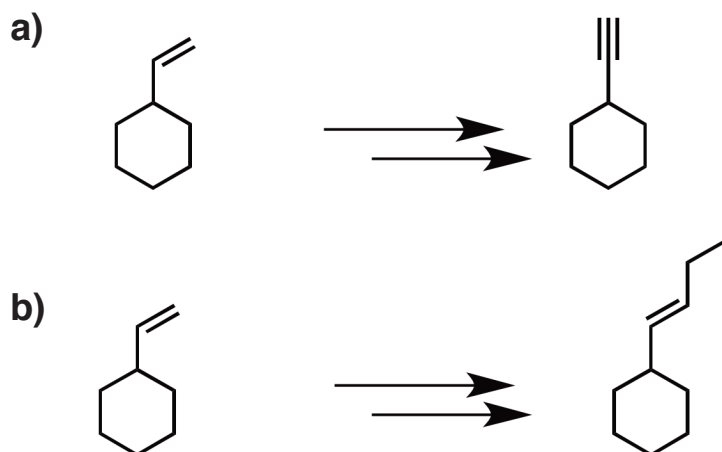
(Mini Roadmap #2)



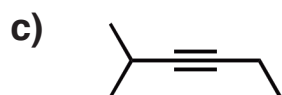
Synthesis (1)

<http://bit.ly/Alkynes-MOC-22>

Show how you would perform the following transformations:

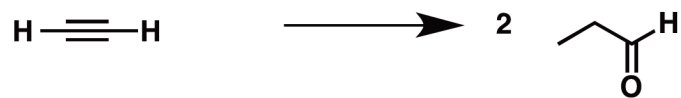


Show a reaction that would make this in one step from an acetylide and an alkyl halide

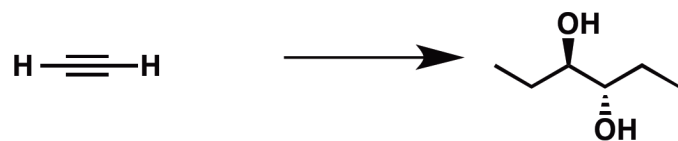


Synthesis (2)

Starting from acetylene as the carbon source and any reagents of your choice, how would you make each of the following molecules?



<http://bit.ly/Alkynes-MOC-23>



<http://bit.ly/Alkynes-MOC-24>



<http://bit.ly/Alkynes-MOC-25>



<http://bit.ly/Alkynes-MOC-26>



<http://bit.ly/Alkynes-MOC-27>

