Fall 99: Quiz 3. Ch 7-9 **20points**

Name_____

If you do not want your graded quiz placed in the box outside my office, then please tick here_____

(1-10) are True or False.

1) Alkenes are electron rich and are nucleophiles.

2) Alkynes are electron rich and are nucleophiles.

3) Alkynes have 2π bonds.

4) The use of a dialkylperoxide as a free radical initiator allows the addition of hydrogen bromide to an alkene double bond to proceed with anti-Markovnikov orientation.

5) Hydrogenation (using Lindlar's catalyst) of alkynes gives cis alkenes, whereas the treatment of alkynes with sodium metal and liquid ammonia gives trans alkenes.

6) The addition of HCl to an alkene double bond is an example of nucleophilic substitution.

7) An epoxide is formed by reaction of an alkene with a peroxyacid.

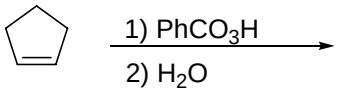
8) Alkynes can display cis / trans isomerism.

9) Alkynes can be oxidized by neutral $KmnO_4$ to gives diketones.

10) The addition of H-O-H to an alkene gives alkyl bromides with Markovnikov orientation.

(11-15) Draw the products of the following reactions, paying attention to any stereo-/regio-chemistry.

11)



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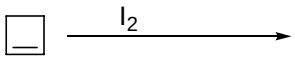

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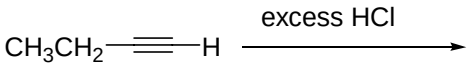

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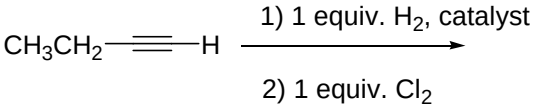

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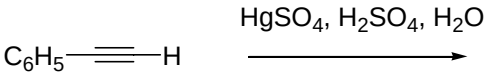
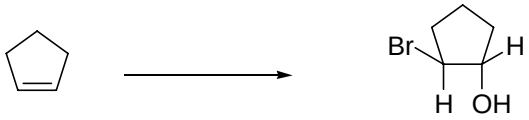


(16-20) Give suitable reagents for the following transformations.

16)

17)



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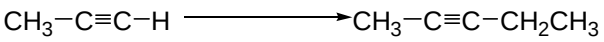

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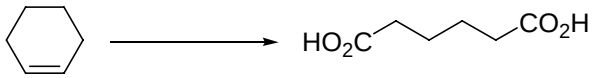

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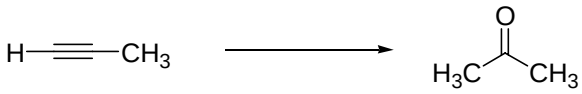

***Bonus Question**: Describe a simple chemical test you could perform to distinguish between propyne and 2-butyne?

Fall 99: Quiz 3. Ch 7-9 **20points**

Name NEEDMOR STUDYIN

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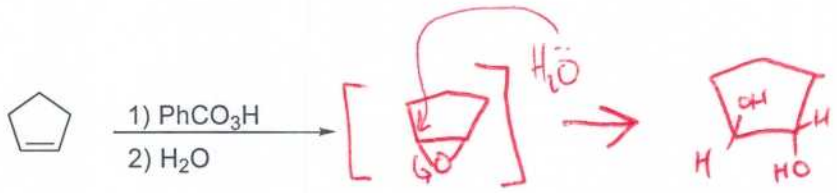

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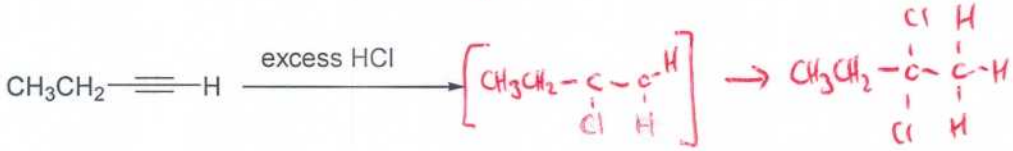
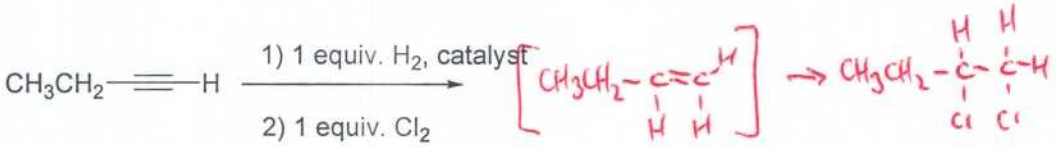


Markovnikov addn

14)



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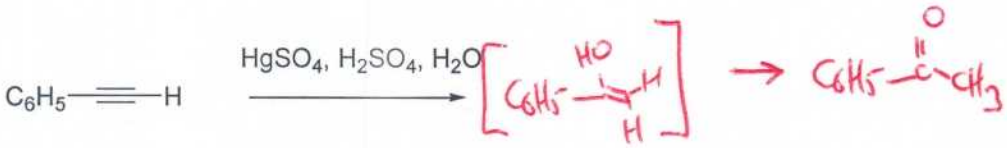

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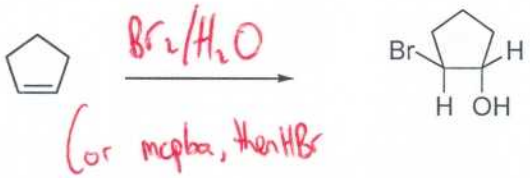

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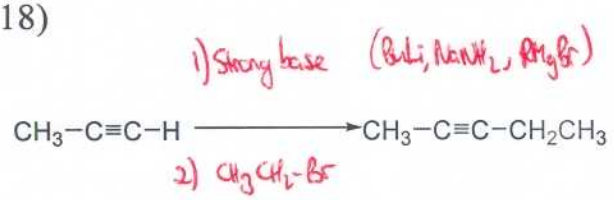

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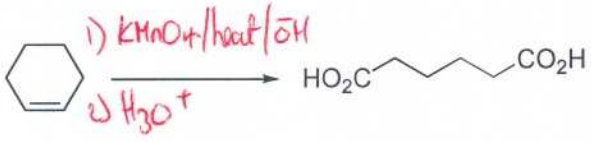

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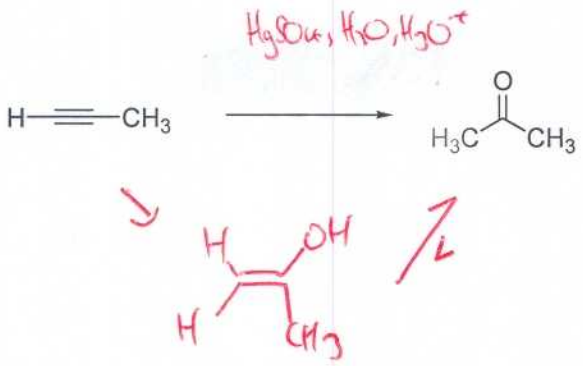

MARKOVNIKOV ADDN of H_2O & then ENOL → KETO

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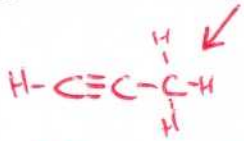

TERMINAL ALKYNE

INTERNAL ALKYNE

Add Ag^+ or Cu^+ reagent, and look for precipitate from the TERMINAL ALKYNE.