Last Name	First Name	MI
Student ID Number:		***Total Score***
Circle the name of your TA: Cari / Phil / Adam / Heather		
Discussion Section – Day: Time:		**/ 30**

Chem 30A Fall 2004

QUIZ #2 (BLUE)

(15 Min)

Weds Nov 10th

INTERPRETATION OF THE QUESTIONS IS PART OF THE EXAM – DO NOT ASK FOR THE QUESTIONS TO BE EXPLAINED TO YOU

USE CAPITAL LETTERS WHEN FILLING IN THE BOXES AND BE CLEAR – IF WE CAN'T FIGURE OUT WHAT A LETTER IS, IT WILL AUTOMATICALLY BE GRADED AS INCORRECT

****DO NOT OPEN THIS EXAM UNTIL INSTRUCTED TO DO SO****

Q	1	2	3	4	5	6	7	8	9	10	Total
X											

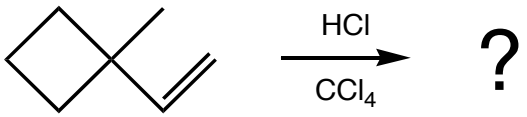
ANSWER TO BONUS QUESTION

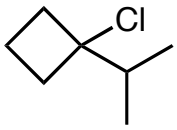
Being eaten by a crocodile is just like going to sleep... in a giant blender – Homer J Simpson

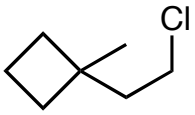
---

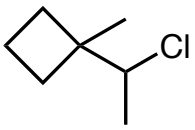
Questions 1–10 are worth **3** points each. The bonus is worth **5** points.

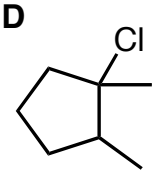
1. What is the MAJOR product of the reaction shown below?

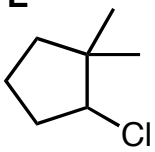


A


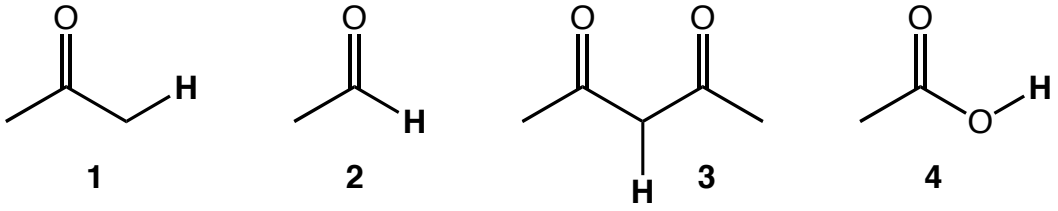
B


C


D


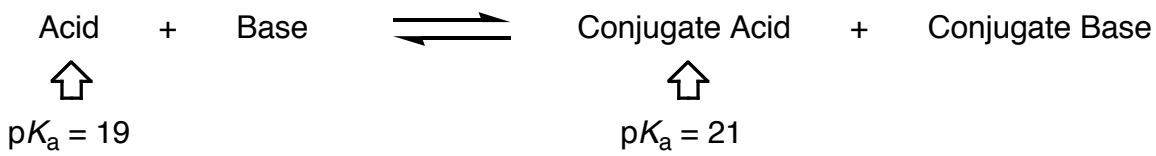
E


2. What is the order of acidity (from lowest pK_a value to highest pK_a value) of the bold hydrogen (**H**) atoms shown highlighted in the compounds drawn below?



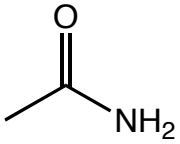
A 3, 4, 2, 1 **B** 4, 2, 1, 3 **C** 3, 1, 4, 2 **D** 2, 4, 3, 1 **E** 4, 3, 1, 2

3. The equilibrium constant (K_{eq}) for the reaction shown below is...?

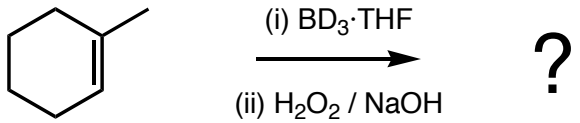


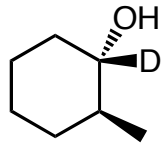
A 2 **B** 100 **C** –2 **D** 0.01 **E** 40

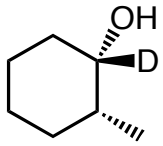
4. Which of the compounds drawn below is the strongest base?

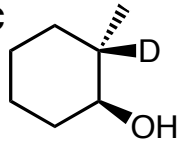
A NH_4Cl **B** NH_3 **C** $NaNH_2$ **D** CH_3NH_2 **E** 

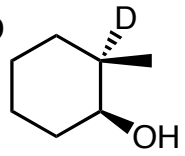
5. Hydroboration/oxidation of 1-methylcyclohexene with deuterated borane·THF (reacts just like BH_3·THF, but has D atoms instead of H) gives which compound?

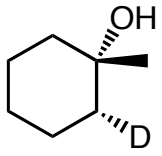


A 

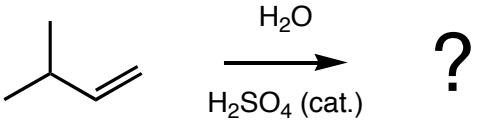
B 

C 

D 

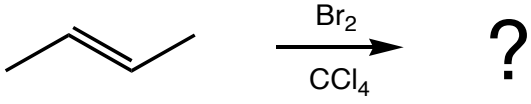
E 

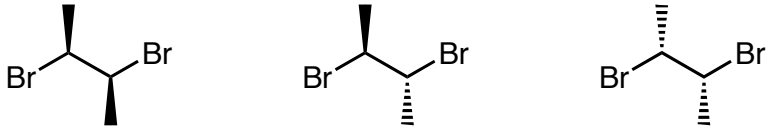
6. What is the MAJOR product of the reaction shown below?



A 2,2-dimethyl-propan-1-ol
B 3-methyl-butan-2-ol
C 3-methyl-butan-1-ol
D 2-methyl-butan-1-ol
E 2-methyl-butan-2-ol

7. The product(s) of the reaction shown below are?

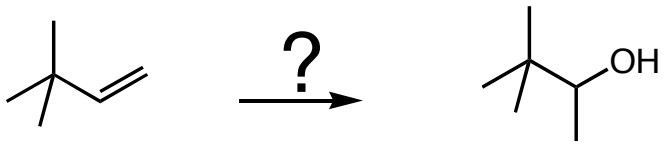




1 **2** **3**

A Only 1 **B** Only 2 **C** Only 3 **D** Only 1 and 3 **E** 1, 2, and 3

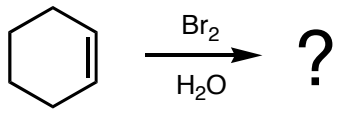
8. Which combination(s) of reagents would give rise to the reaction shown below?

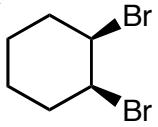


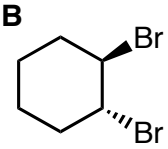
#1 (i) BH_3·THF (ii) H_2O_2 / NaOH **#2** (i) $Hg(OAc)_2/H_2O$ (ii) $NaBH_4$ **#3** H_2O/H_2SO_4(cat.)

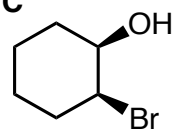
A Only #1 **B** Only #2 **C** Only #3 **D** Only #2 and #3 **E** #1, #2, and #3

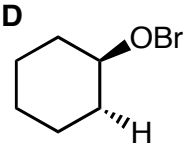
9. What is the MAJOR product of the reaction shown below?

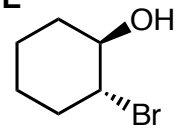


A


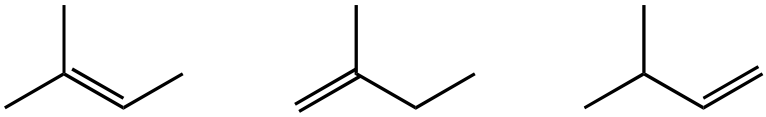
B


C


D


E


10. Which of the three alkenes drawn below will react with HBr in ether (solvent) to give 2-bromo-2-methylbutane?



1 **2** **3**

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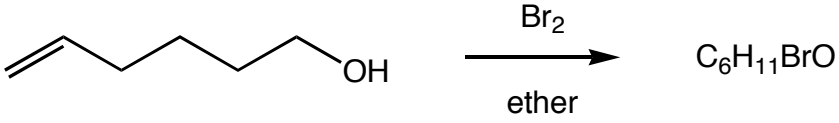
BONUS: The reaction of 5-hexen-1-ol with bromine in ether (solvent) gives a compound with the molecular formula $C_6H_{11}BrO$. Draw what you think the product of this reaction is ON THE FRONT COVER of this quiz in the box provided.



Last Name	First Name	MI
Student ID Number:		*Total Score*
Circle the name of your TA: Cari / Phil / Adam / Heather		
Discussion Section – Day: Time:		**/ 30**

Chem 30A Fall 2004

QUIZ #2 (PINK)

(15 Min)

Weds Nov 10th

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X											

ANSWER TO BONUS QUESTION

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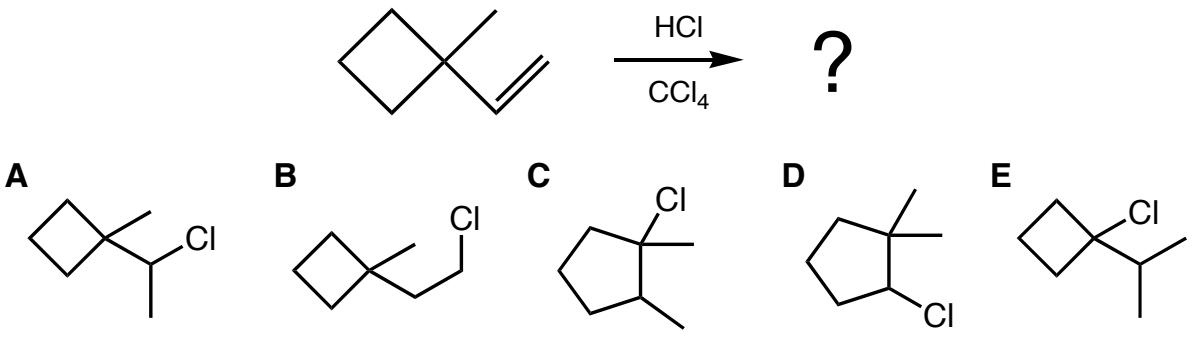
1. What is the MAJOR product of the reaction shown below?



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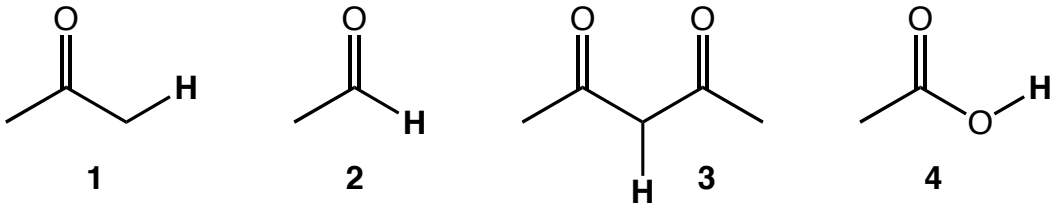
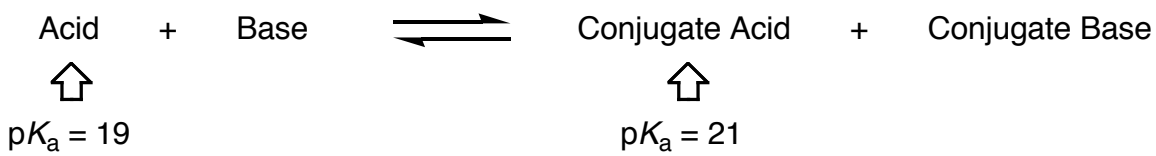


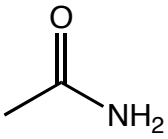
A 2, 4, 3, 1 **B** 4, 3, 1, 2 **C** 3, 1, 4, 2 **D** 3, 4, 2, 1 **E** 4, 2, 1, 3

3. The equilibrium constant (K_{eq}) for the reaction shown below is...?



A –2 **B** 0.01 **C** 2 **D** 40 **E** 100

4. Which of the compounds drawn below is the strongest base?

A $NaNH_2$ **B** CH_3NH_2 **C**  **D** NH_3 **E** NH_4Cl

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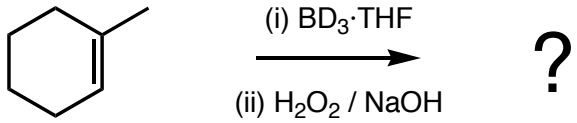
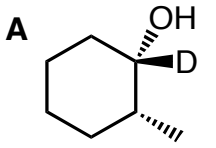
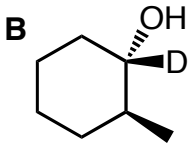
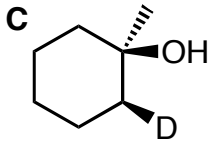
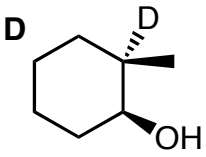
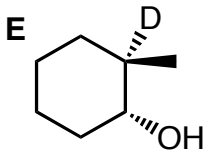


A  **B**  **C**  **D**  **E** 

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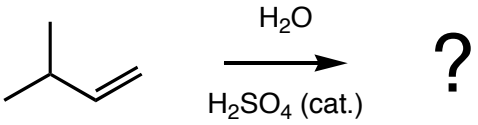

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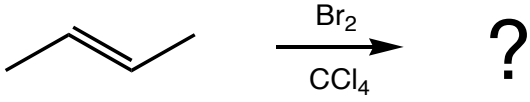
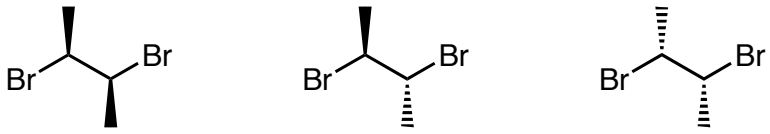
B 3-methyl-butan-2-ol
C 3-methyl-butan-1-ol
D 2-methyl-butan-2-ol
E 2-methyl-butan-1-ol

7. The product(s) of the reaction shown below are?

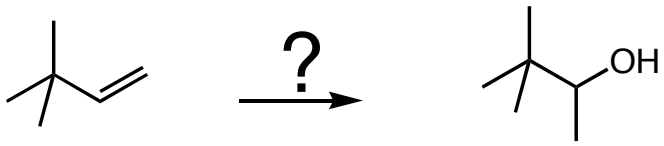




1 **2** **3**

A Only 1 and 3 **B** 1, 2, and 3 **C** Only 2 **D** Only 1 **E** Only 3

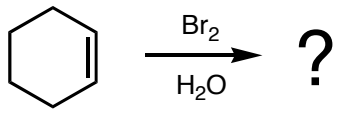
8. Which combination(s) of reagents would give rise to the reaction shown below?

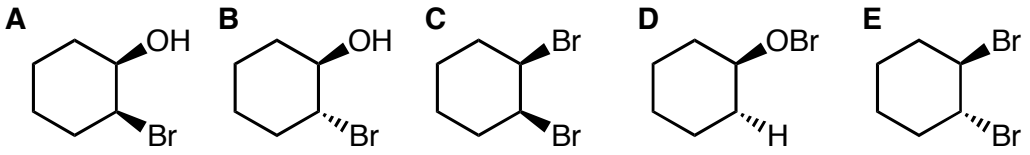


#1 (i) BH_3·THF (ii) H_2O_2 / NaOH **#2** (i) $Hg(OAc)_2/H_2O$ (ii) $NaBH_4$ **#3** H_2O/H_2SO_4(cat.)

A #1, #2, and #3 **B** Only #2 and #3 **C** Only #1 **D** Only #2 **E** Only #3

9. What is the MAJOR product of the reaction shown below?





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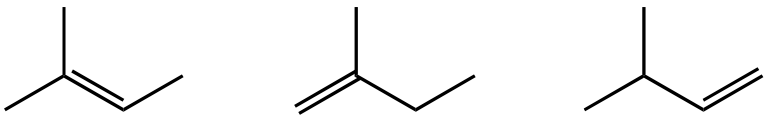
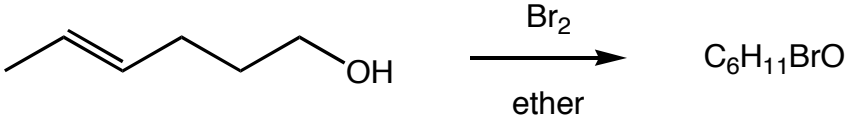


1 **2** **3**

A 1, 2, and 3 **B** Only 1 and 3 **C** Only 3 **D** Only 2 **E** Only 1

BONUS: The reaction of 4-hexen-1-ol with bromine in ether (solvent) gives a compound with the molecular formula $C_6H_{11}BrO$. Draw what you think the product of this reaction is ON THE FRONT COVER of this quiz in the box provided.



Last Name	First Name	MI
Student ID Number:		***Total Score***
Circle the name of your TA: Cari / Phil / Adam / Heather		
Discussion Section – Day: Time:		**/ 30**

Chem 30A Fall 2004

QUIZ #2 (BUFF)

(15 Min)

Weds Nov 10th

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ANSWER TO BONUS QUESTION

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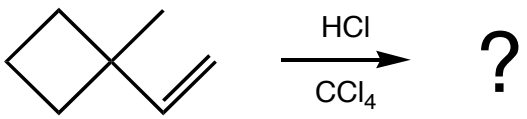
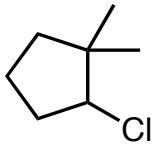
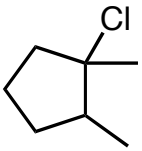
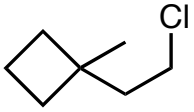
Questions 1–10 are worth **3** points each. The bonus is worth **5** points.

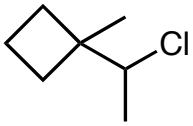
1. What is the MAJOR product of the reaction shown below?

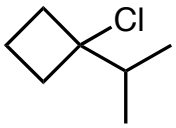


A


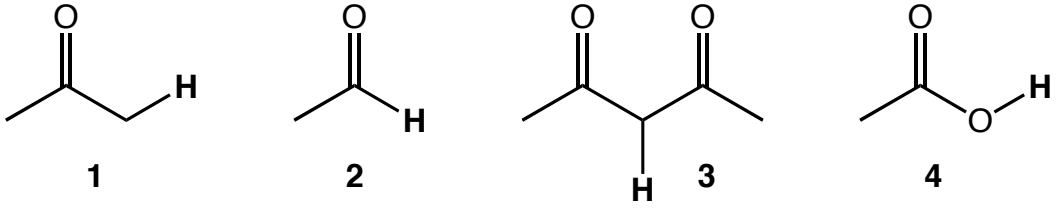
B


C


D


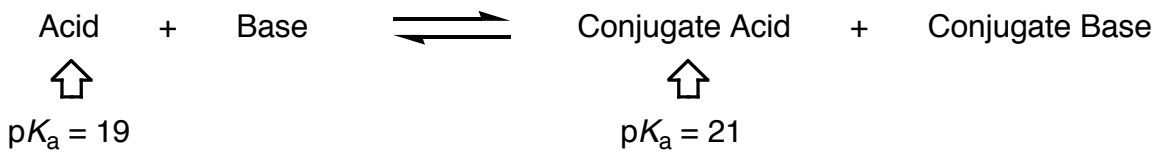
E


2. What is the order of acidity (from lowest pK_a value to highest pK_a value) of the bold hydrogen (**H**) atoms shown highlighted in the compounds drawn below?



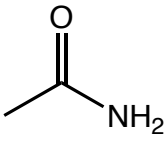
A 2, 4, 3, 1 **B** 3, 1, 4, 2 **C** 4, 3, 1, 2 **D** 3, 4, 2, 1 **E** 4, 2, 1, 3

3. The equilibrium constant (K_{eq}) for the reaction shown below is...?

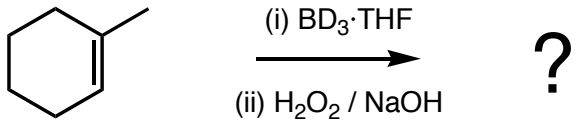


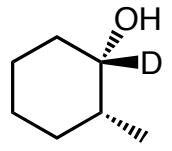
A 2 **B** –2 **C** 0.01 **D** 100 **E** 40

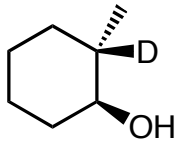
4. Which of the compounds drawn below is the strongest base?

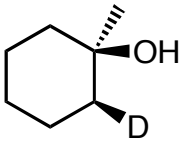
A CH_3NH_2 **B** $NaNH_2$ **C**  **D** NH_3 **E** NH_4Cl

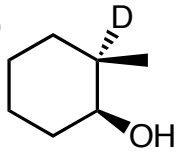
5. Hydroboration/oxidation of 1-methylcyclohexene with deuterated borane·THF (reacts just like BH_3·THF, but has D atoms instead of H) gives which compound?

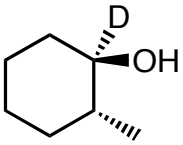


A 

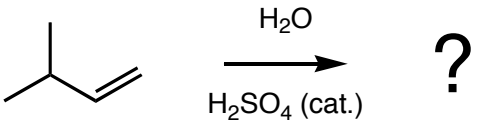
B 

C 

D 

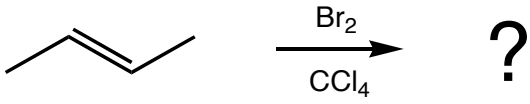
E 

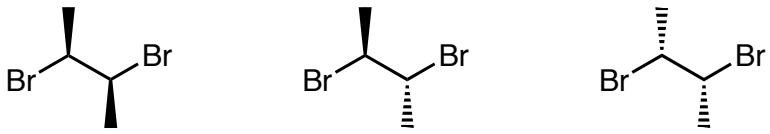
6. What is the MAJOR product of the reaction shown below?



A 2,2-dimethyl-propan-1-ol
B 2-methyl-butan-2-ol
C 3-methyl-butan-2-ol
D 3-methyl-butan-1-ol
E 2-methyl-butan-1-ol

7. The product(s) of the reaction shown below are?

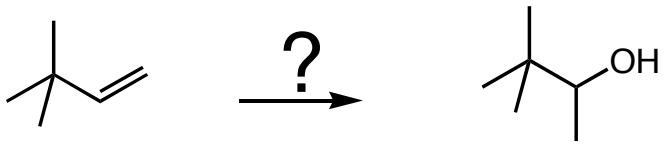




1 **2** **3**

A Only 1 and 3 **B** 1, 2, and 3 **C** Only 3 **D** Only 2 **E** Only 1

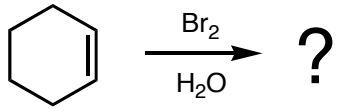
8. Which combination(s) of reagents would give rise to the reaction shown below?

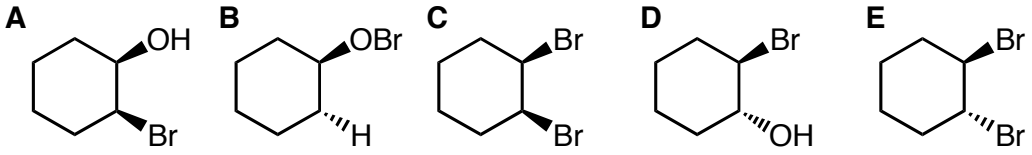


#1 (i) BH_3·THF (ii) H_2O_2 / NaOH **#2** (i) $Hg(OAc)_2/H_2O$ (ii) $NaBH_4$ **#3** H_2O/H_2SO_4(cat.)

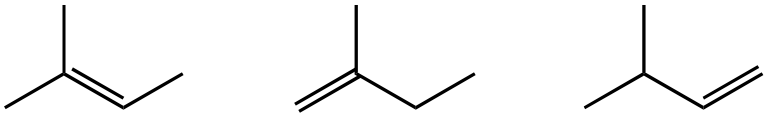
A #1, #2, and #3 **B** Only #1 **C** Only #2 **D** Only #3 **E** Only #1 and #3

9. What is the MAJOR product of the reaction shown below?





10. Which of the three alkenes drawn below will react with HBr in ether (solvent) to give 2-bromo-2-methylbutane?



1 **2** **3**

A Only 2 **B** Only 1 and 3 **C** Only 1 **D** 1, 2, and 3 **E** Only 3

BONUS: The reaction of 5-hexen-2-ol with bromine in ether (solvent) gives a compound with the molecular formula $C_6H_{11}BrO$. Draw what you think the product of this reaction is ON THE FRONT COVER of this quiz in the box provided.