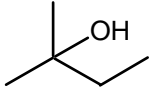
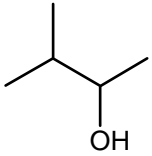
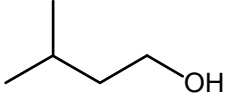
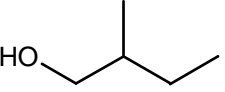
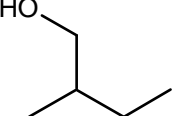


Name: _____ Date: _____

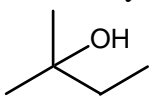
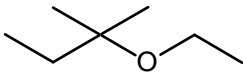
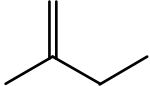
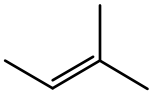
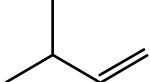
1. Which alcohol would initially produce the most stable carbocation when treated with concentrated H_2SO_4 ?

- A) 
- B) 
- C) 
- D) 
- E) 

2. Rearrangements are likely to occur in which of the following reaction types?

- A) $\text{S}_{\text{N}}1$ reactions
B) $\text{S}_{\text{N}}2$ reactions
C) $\text{E}1$ reactions
D) $\text{E}2$ reactions
E) Both $\text{S}_{\text{N}}1$ and $\text{E}1$ reactions

3. Which compound listed below would you expect to be the major product when 2-bromo-2-methylbutane is refluxed with KOH/ethanol?

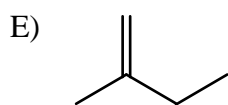
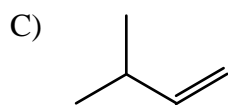
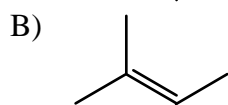
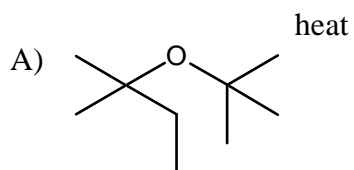
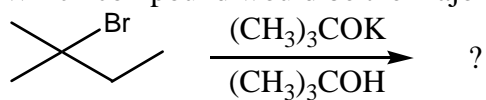
- A) 
- B) 
- C) 
- D) 
- E) 

4. Which product (or products) would be formed in appreciable amount(s) when trans-1-bromo-2-methylcyclohexane undergoes dehydrohalogenation upon treatment with sodium ethoxide in ethanol?

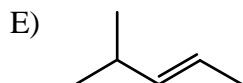
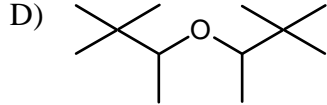
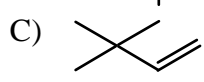
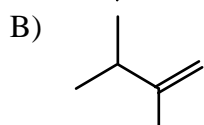
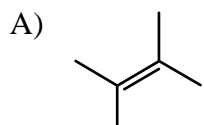
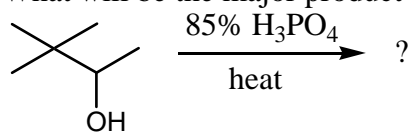


- A) I
B) II
C) III
D) IV
E) More than one of these

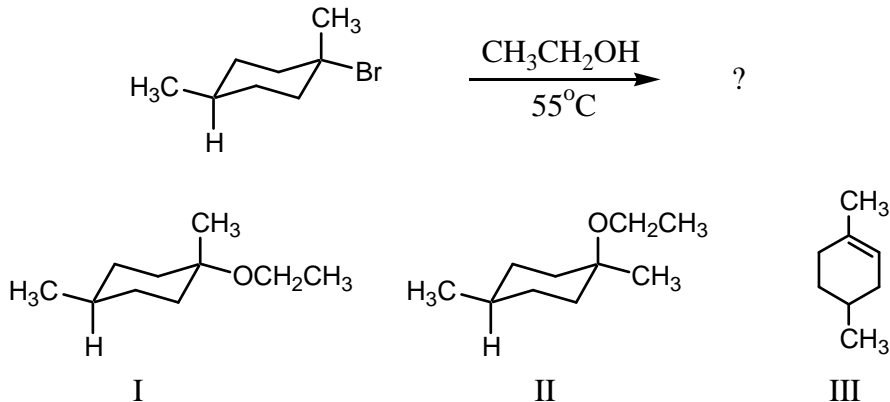
5. Which compound would be the major product?



6. What will be the major product of the following reaction?

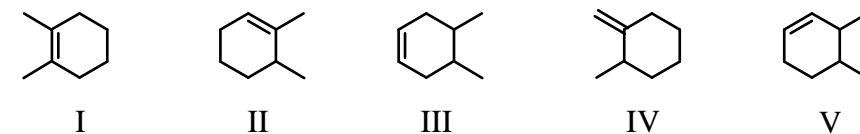


7. Which compound(s) would be produced by the following reaction?



- A) I
 B) II
 C) III
 D) More than one of the above
 E) All of the above

8. Which molecule would have the lowest heat of hydrogenation?



- A) I
 B) II
 C) III
 D) IV
 E) V

9. One mole of each of the following alkenes is subjected to complete combustion. Which would you expect to liberate the most heat?

- A) 1-Pentene
 B) cis-2-Pentene
 C) 2-Methyl-1-butene
 D) 2-Methyl-2-butene
 E) trans-2-Pentene

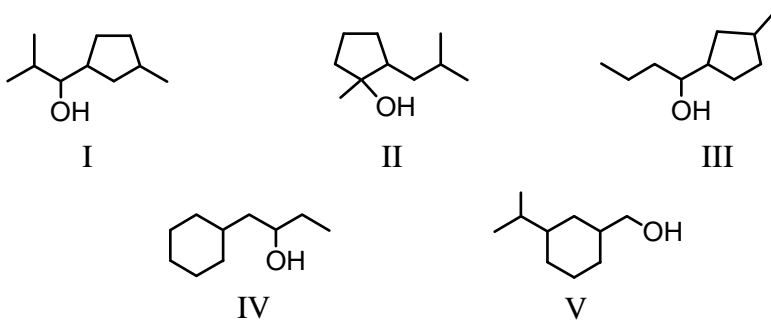
10. Which of the following correctly lists the compounds in order of decreasing acidity?

- A) $\text{H}_2\text{O} > \text{HC}\equiv\text{CH} > \text{NH}_3 > \text{CH}_3\text{CH}_3$
- B) $\text{HC}\equiv\text{CH} > \text{H}_2\text{O} > \text{NH}_3 > \text{CH}_3\text{CH}_3$
- C) $\text{CH}_3\text{CH}_3 > \text{HC}\equiv\text{CH} > \text{NH}_3 > \text{H}_2\text{O}$
- D) $\text{CH}_3\text{CH}_3 > \text{HC}\equiv\text{CH} > \text{H}_2\text{O} > \text{NH}_3$
- E) $\text{H}_2\text{O} > \text{NH}_3 > \text{HC}\equiv\text{CH} > \text{CH}_3\text{CH}_3$

11. Select the strongest base.

- A) OH^-
- B) $\text{RC}\equiv\text{C}^-$
- C) NH_2^-
- D) $\text{CH}_2=\text{CH}^-$
- E) CH_3CH_2^-

12. Which alcohol would be most easily dehydrated?



- A) I
- B) II
- C) III
- D) IV
- E) V

Answer Key

1. A
2. E
3. D
4. B
5. E
6. A
7. E
8. A
9. A
10. A
11. E
12. B