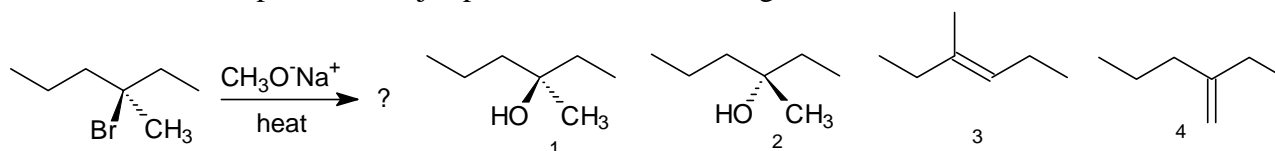


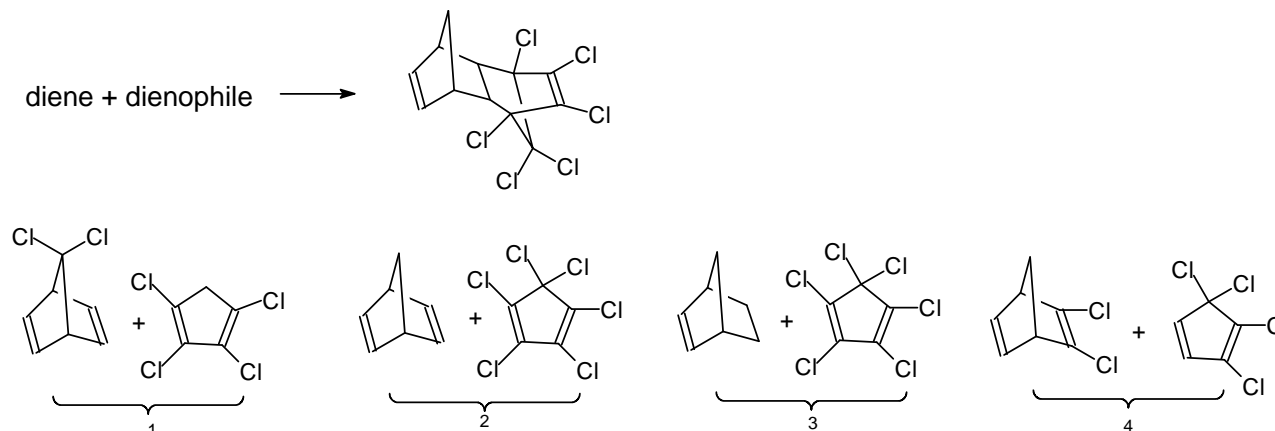
MARK ONE ANSWER FOR EACH QUESTION ON BOTH THE EXAM AND YOUR SCANTRON!

1. What is the most plausible major product of the following reaction?



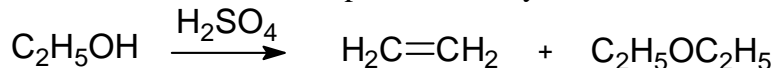
- A. Compound 1 B. Compound 2 C. A racemic mixture of 1 and 2 D. Compound 3
E. Compound 4

2. Which combination of diene and dienophile can be used to make the product below?



- A. Combination 1 B. Combination 2 C. Combination 3 D. Combination 4
E. Both 3 and 4 will work

3 Heating of ethanol with sulfuric acid as a catalyst to 100° generates an elimination product, ethene, and a substitution product, diethylether. In both cases, water forms as a byproduct.



How could you improve the yield of the elimination product, ethene?

- A. By increasing the temperature
B. By decreasing the temperature
C. By replacing sulfuric acid with hydrochloric acid
D. By replacing sulfuric acid with a strong base
E. By adding water to the mixture

4. **This is version A. Please circle 4 A on your scantron!**

Key:

1. D

2. B

3. A