

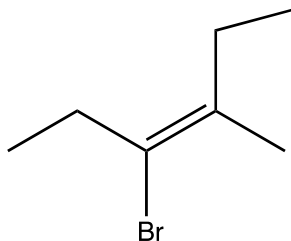
# Organic Chemistry I

## Exam 3



- 1.) Below is either the name of a structure or the structure itself: Give the correct name of the given structure or draw the correct structure for the given name.

(*R, Z*)-4-ethyl-3,5-dimethylhex-3-en-2-ol

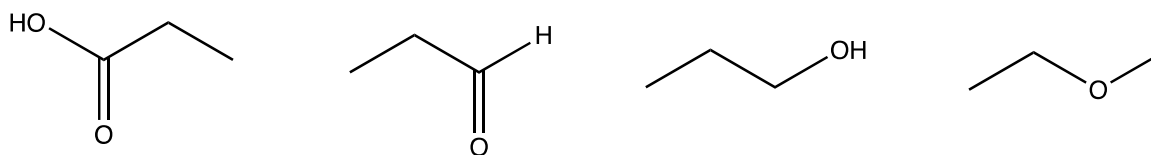


- 2.) Below are 2 **different** sets of structures. In each set, rank the following structures from 1-4, giving 1 to the lowest boiling point and 4 to the highest boiling point.

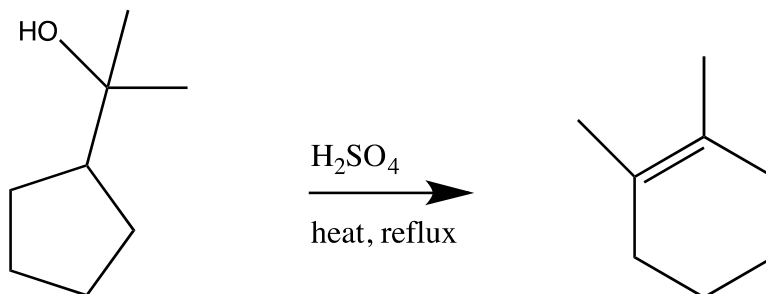
a.)



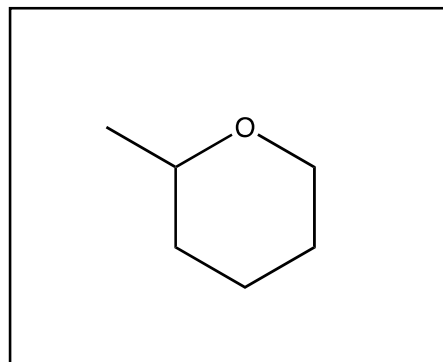
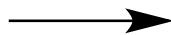
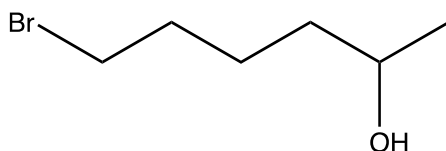
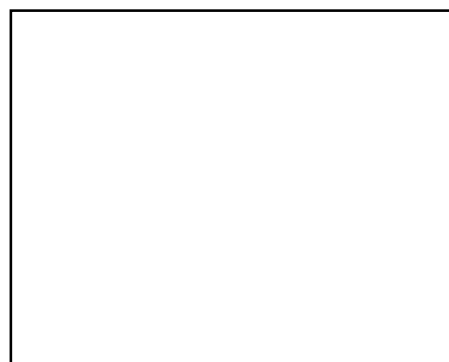
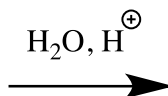
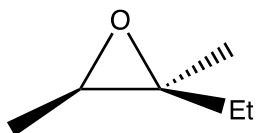
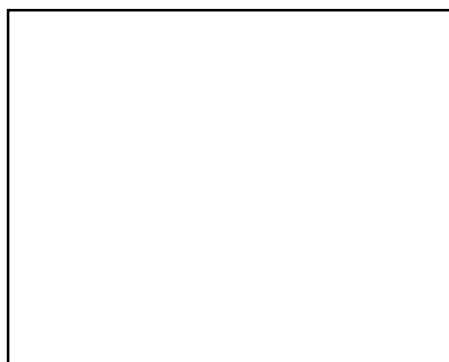
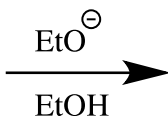
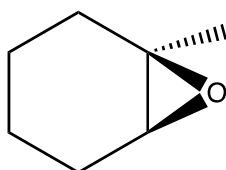
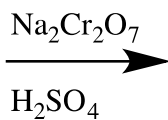
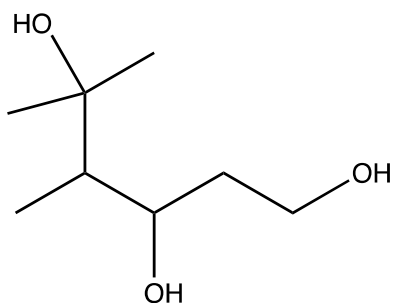
b.)

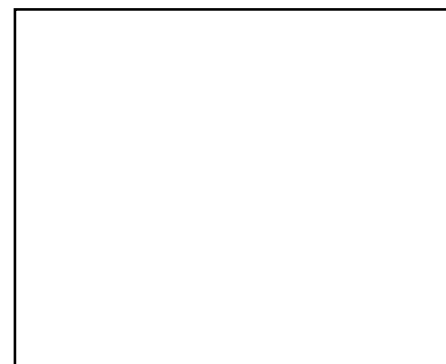
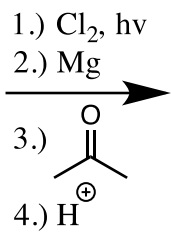
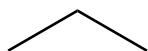
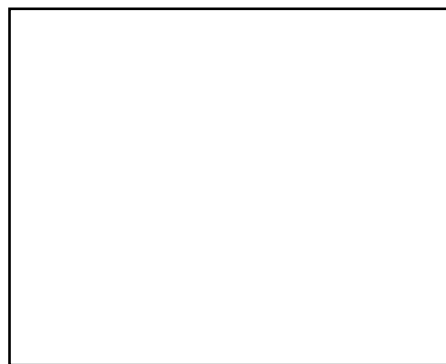
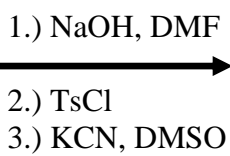
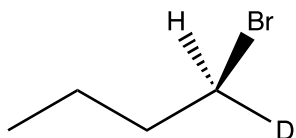
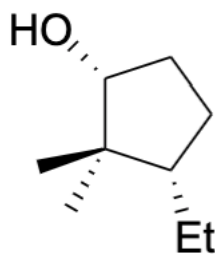
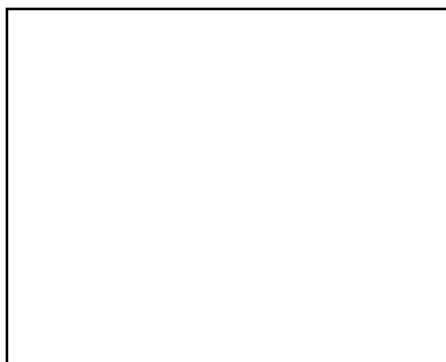
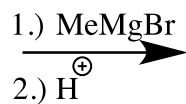
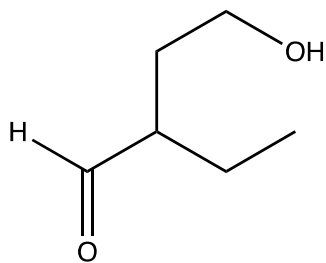


3.) Draw the arrow pushing mechanism for the reaction depicted below. Include all formal charges in every step.



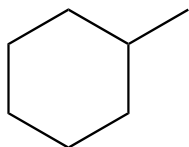
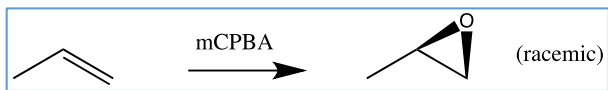
4.) The many reactions below are shown missing their **final product** or the **reagents** that complete the reaction itself. For each problem below, either correctly predict the final product or fill in the necessary reagents for the desired transformation.





5.) Propose an efficient synthesis of the desired target molecule (pictured below on the right) with only methylcyclohexane and methane as your sole carbon sources.

**Also, you may need the reaction below (it is formally covered in the Alkene Series)**



CH<sub>4</sub>

