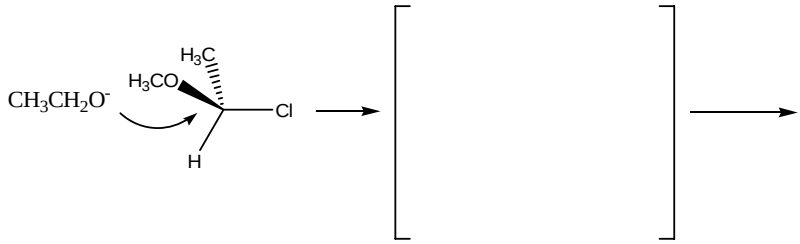
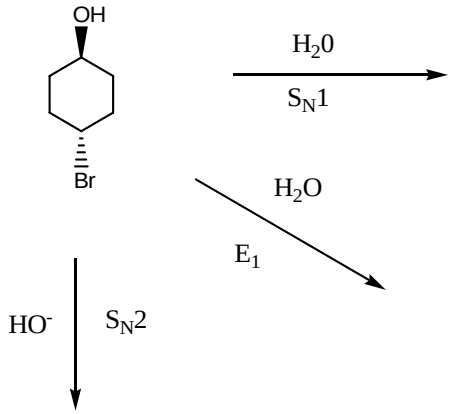
Problem set for exam #2 (covers chap 8,9, 10,)

Draw the transition state and final product for the following S_N2 reaction. Be sure to show pertinent stereochemistry.

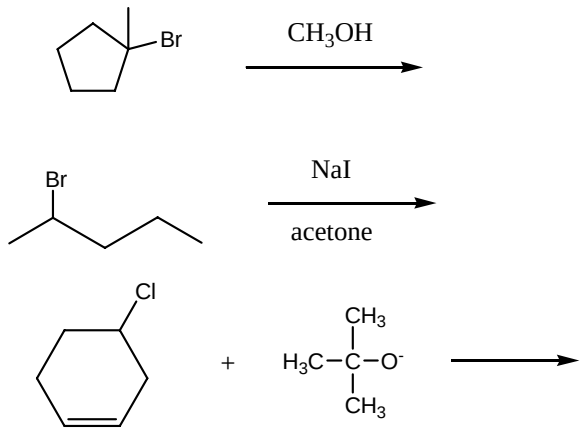


transistion state

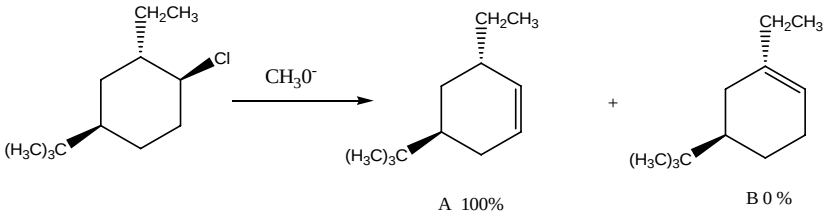
2. Draw the products for the following reactions (the mechanism is given for each reaction). Be sure to show the stereochemistry of the products.



For the reactions below draw the products and **state if the reaction was Sn1, Sn2, E2 or E1**. You do not need to worry about stereochemistry.



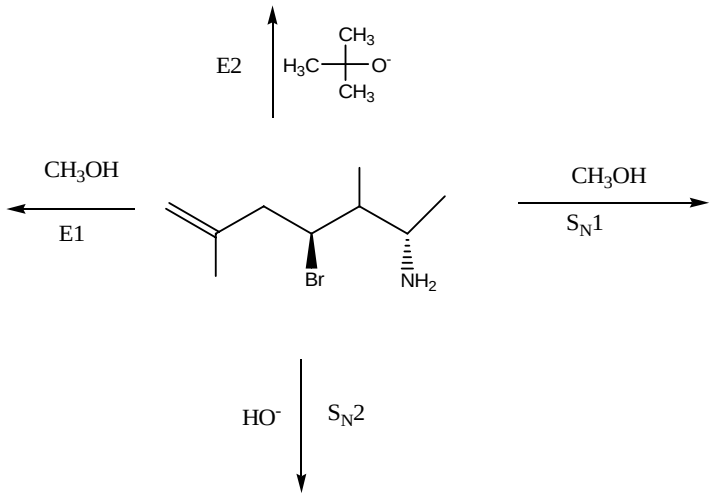
The elimination reaction below goes by the E2 mechanism. Explain the percentages of A and B that are formed. In your explanation you should clearly depict the intermediate transition state of the E2 mechanism (it will be easier to show using the chair form of the cyclohexane ring).



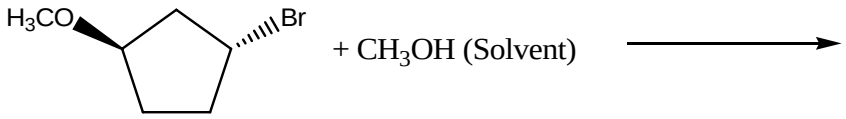
A 100%

B 0 %

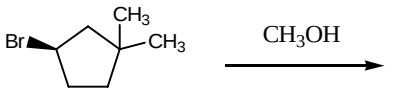
Draw the products for the following reactions (the mechanism is given for each reaction). Be sure to show the stereochemistry of the products.



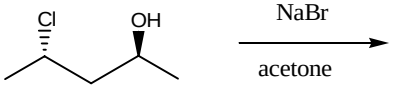
Trans-1,3-Bromomethoxy cyclopentane was reacted with methanol. **Draw the mechanism** and major <u>substitution</u> product(s). Be sure to include all stereochemistry. (**Do not** write the mechanism or draw the products for E1 or E2 mechanisms that may also be occuring).



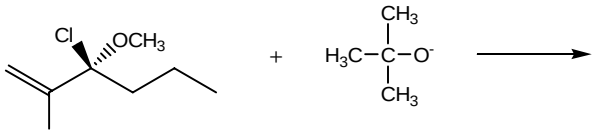
For the reactions below draw the products and **state if the reaction went by a Sn1, Sn2, E2 or E1 mechanism**. Be sure to indicate the proper stereochemistry of the product(s). If the reaction is Sn1/E1 you need only indicate the Sn1 product.



Mechanism:_____

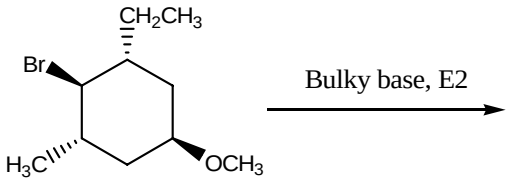


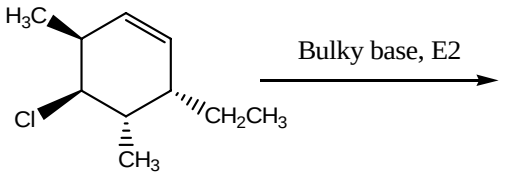
Mechanism: _____

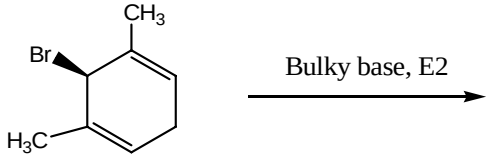


Mechanism: _____

Some of the reactions shown below can react by the E2 mechanism and others cannot. Circle the reaction(s) that can go by the E2 mechanism and draw the product of those reactions (If an E2 mechanism cannot occur write ‘NR’ after the reaction).







Fill in the major product(s) for the reactions below.