

# Discussion Problems

(1) What is the major product?

- 
- 
- 
- 
- 

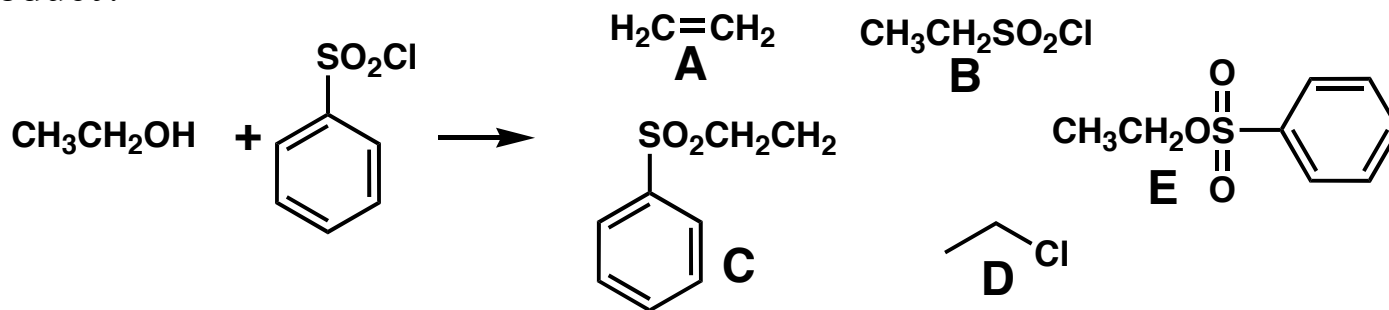
A

B

C

D

E



(2) Which of the following alcohols dehydrates the fastest when subjected to  $\text{H}_2\text{SO}_4$ ?

- 
- 
- 
- 
- 

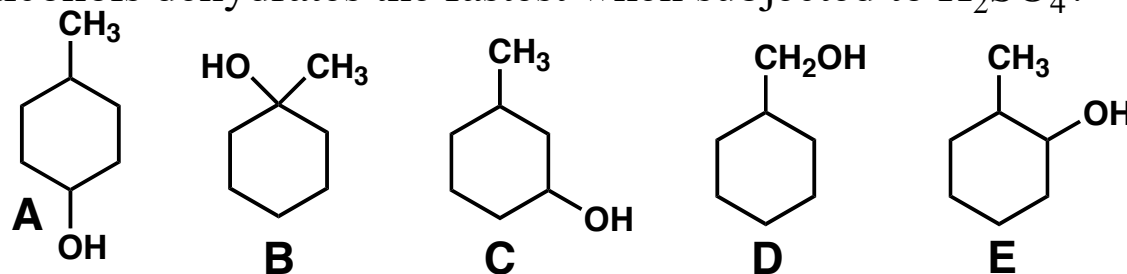
A

B

C

D

E



(3) Which of these alcohols gives a rearranged product upon dehydration with  $\text{H}_2\text{SO}_4$ ?

- 
- 
- 
- 
- 

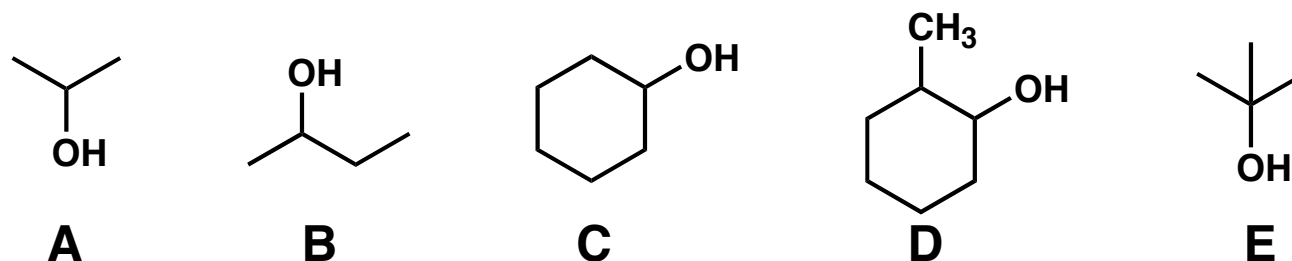
A

B

C

D

E



# Discussion Problems

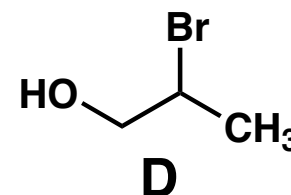
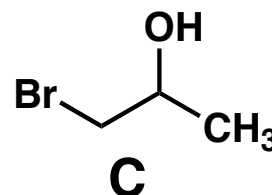
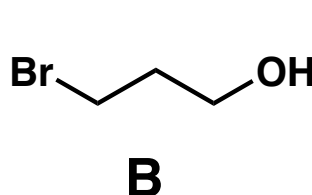
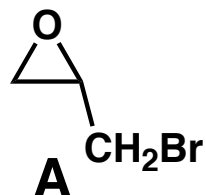
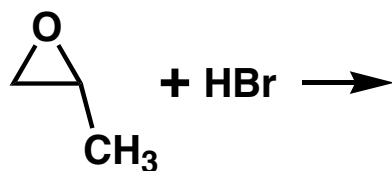
(4) What is the product of the following reaction?

A

B

C

D



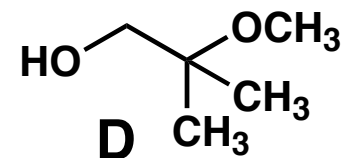
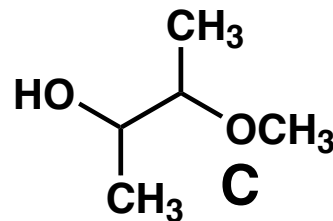
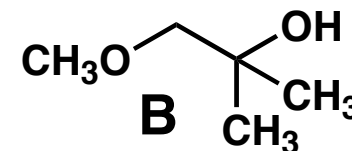
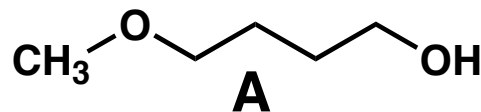
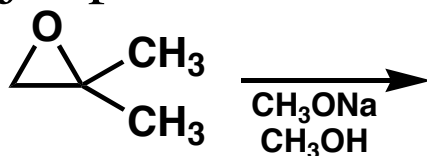
(5) What is the major product of the following reaction?

A

B

C

D



# Discussion Problem

Write out a mechanism leading to the product. Use clear, carefully drawn structures and precise curved arrow notation for all steps. Provide distinct structures for all intermediates. Show resonance forms where necessary. (*Hint: The arylsulfonate anion is the conjugate base of sulfonic acid, Ar-SO<sub>3</sub>H, a very strong acid*).

