

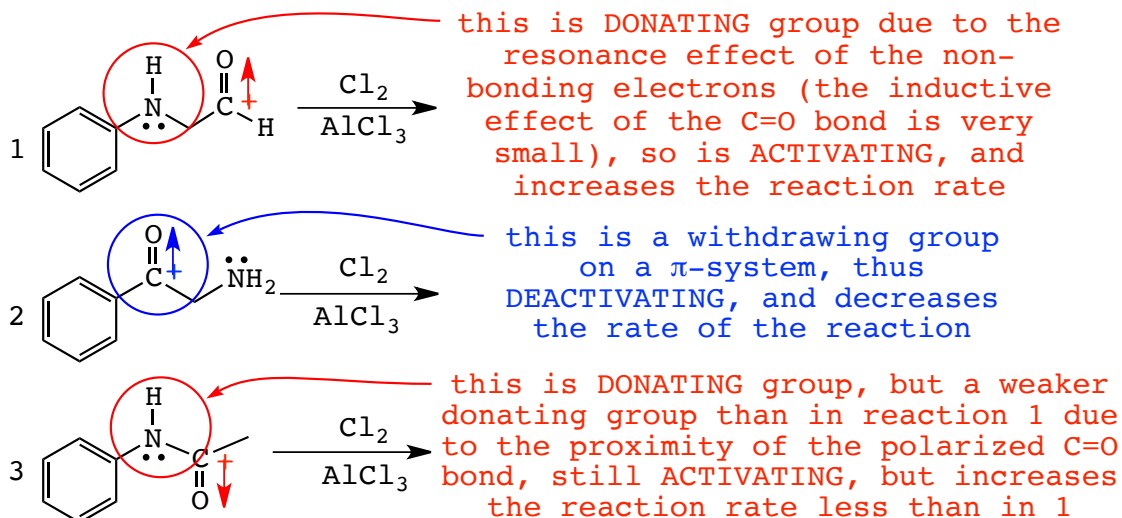
CHM 234, Spring 2017
QUIZ #10 ANSWER KEY

(hit the RETURN Button to return to the Main Quiz Page)

QUESTION 1

MC32m

For the following reactions indicated as 1, 2 and 3, which is the correct order of INCREASING rate of electrophilic aromatic substitution?

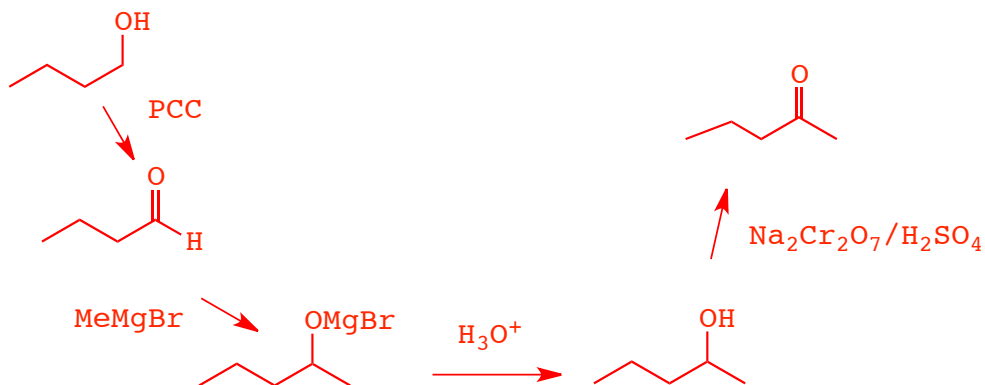
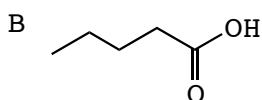
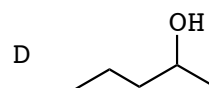
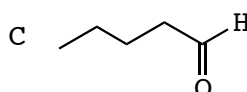
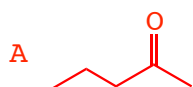
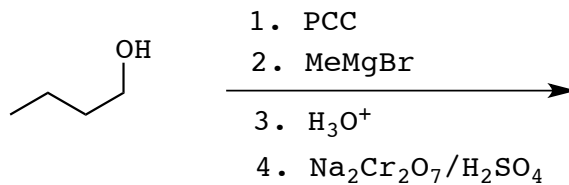


- A 1 (slowest) < 2 < 3 (fastest)
B 2 (slowest) < 3 < 1 (fastest)
C 1 (slowest) < 3 < 2 (fastest)
D 3 (slowest) < 2 < 1 (fastest)
-

QUESTION 2

MC33c

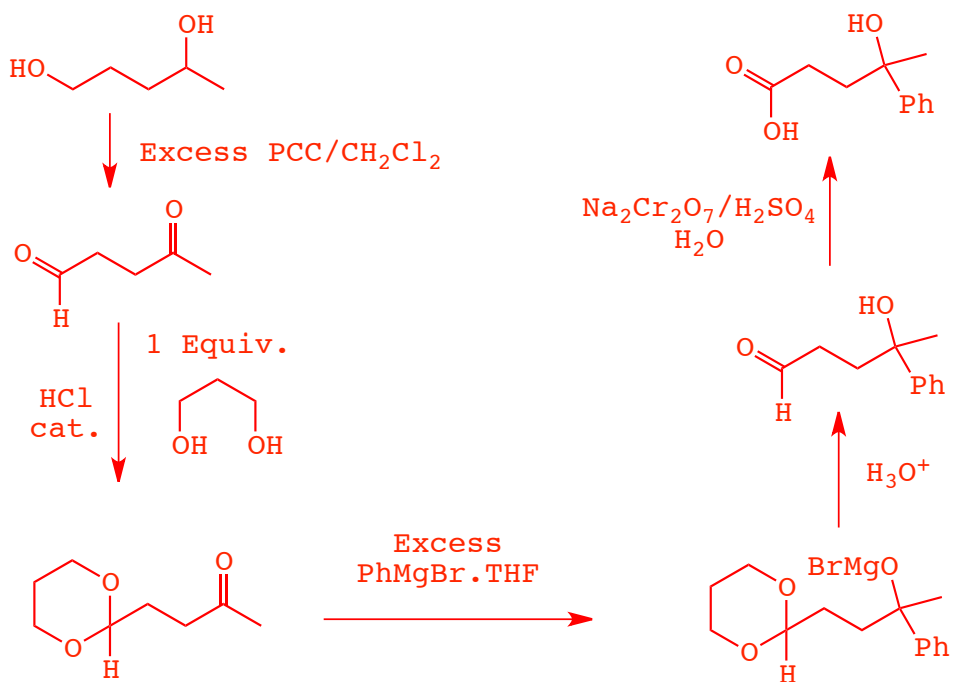
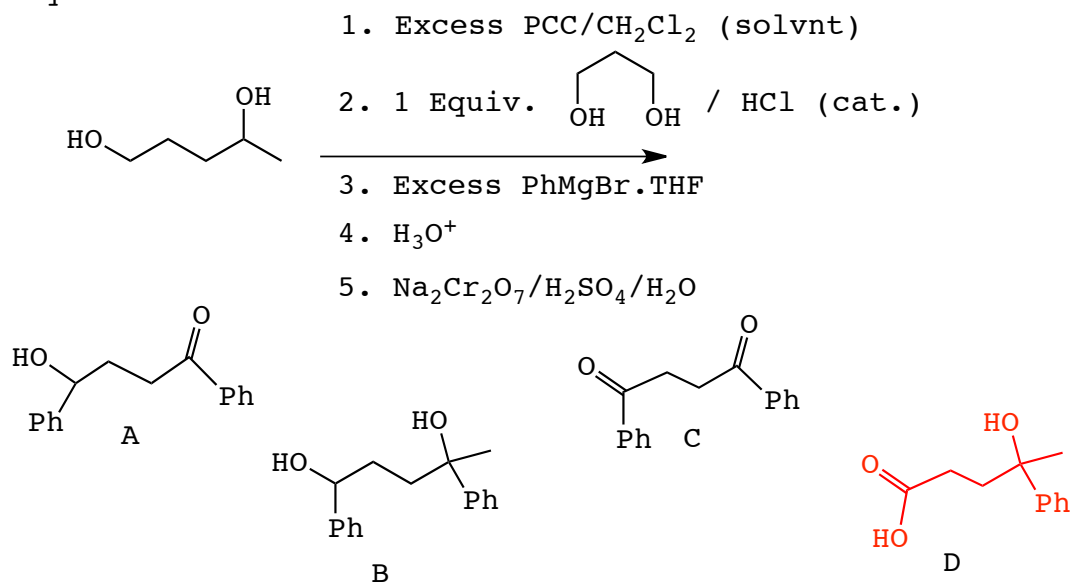
Which best describes the product of the following reaction sequence?



QUESTION 3

MC33e

Which best describes the product of the following reaction sequence?



QUESTION 4

MC33f

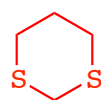
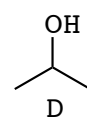
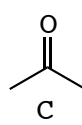
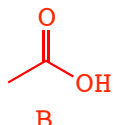
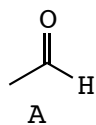
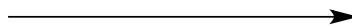
Which best describes the product of the following reaction sequence?

1. BuLi

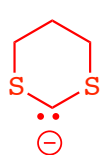
2. MeBr

3. H_3O^+

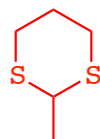
4. $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$



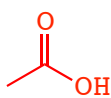
BuLi



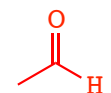
MeBr



H_3O^+



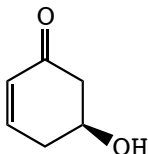
$\text{Na}_2\text{Cr}_2\text{O}_7$
 $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$



QUESTION 5

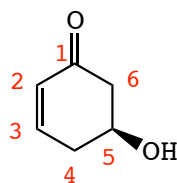
MC33r

Which is a correct IUPAC name for the following structure?



- A (5S)-hydroxycyclohex-2-enone
- B (5S)-hydroxycyclohexen-2-one
- C (5R)-hydroxycyclohex-2-enone
- D (5S)-hydroxycyclohex-2-eneone

lowest # for
substituent
is the alkene



ketone takes priority

~~cyclohexanone
2-ene
(5S)-hydroxy~~

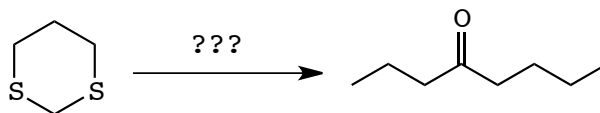
} name fragments

(5S)-hydroxycyclohex-2-enone

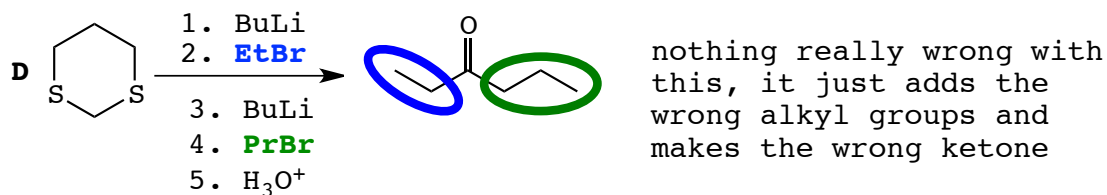
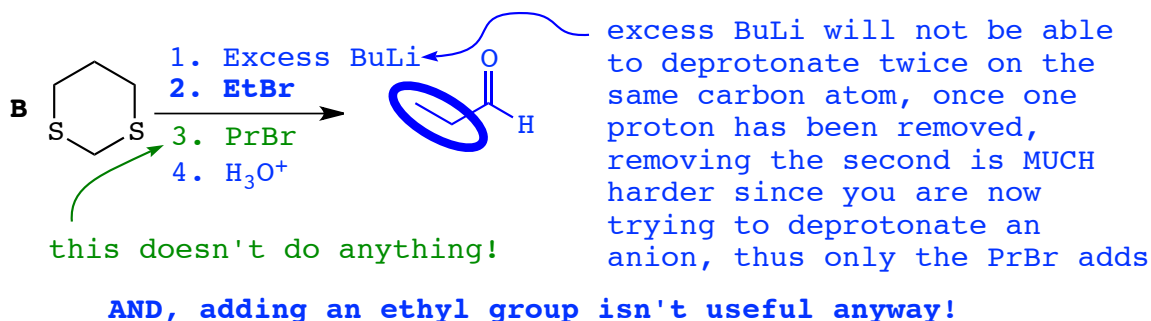
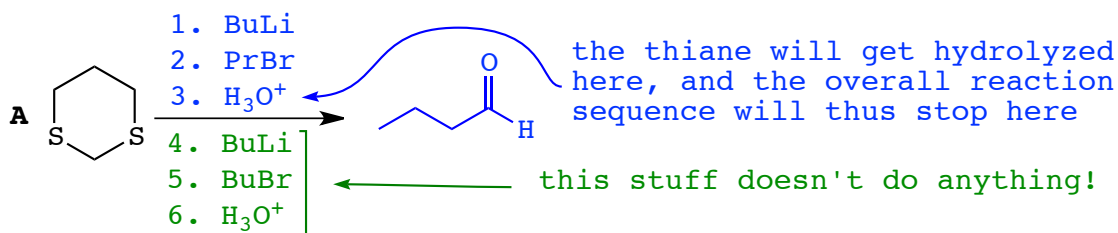
QUESTION 6

MC33n

Select the best reagents and conditions to perform the following ketone synthesis



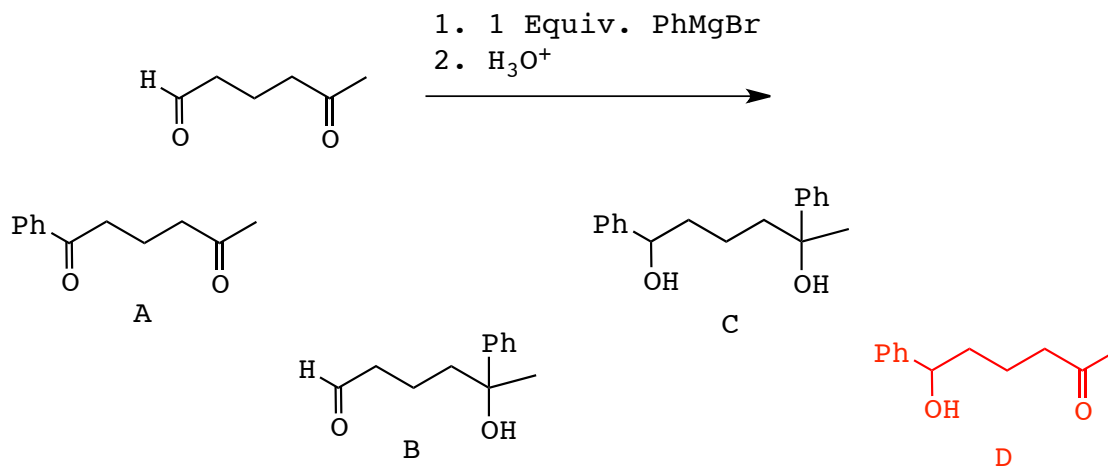
- | | | | |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| 1. BuLi | 1. Excess BuLi | 1. BuLi | 1. BuLi |
| 2. PrBr | 2. EtBr | 2. PrBr | 2. EtBr |
| 3. H ₃ O ⁺ | 3. PrBr | 3. BuLi | 3. BuLi |
| 4. BuLi | 4. H ₃ O ⁺ | 4. BuBr | 4. PrBr |
| 5. BuBr | | 5. H ₃ O ⁺ | 5. H ₃ O ⁺ |
| 6. H ₃ O ⁺ | | | |
| A | B | C | D |



QUESTION 7

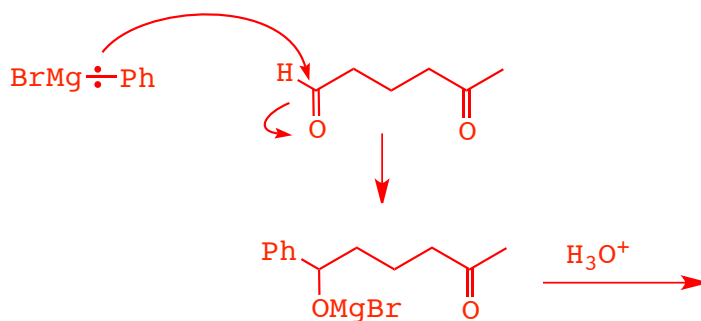
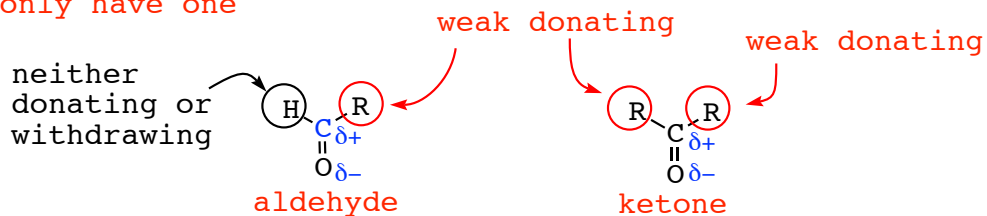
MC33k

Give the best product for the following reaction



the 1 equivalent of phenylmagnesium bromide must "choose" between the aldehyde and the ketone

aldehydes are more reactive than ketones, ketones have two weak donating alkyl groups to stabilize the partial positive charge on the carbon of the C=O bond, aldehydes only have one



QUESTION 8

MC33d

Which best describes the product of the following reaction sequence?

