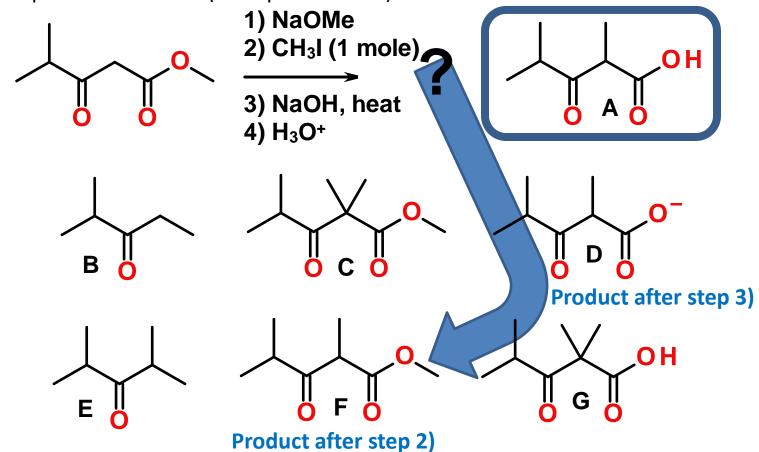


**H** - None of these products are a major product of the reaction that is shown.



**H** - None of these products are a major product of the reaction that is shown.

### Exam 3

- Time:
  - Tuesday, November 8: 7:00 9:00PM OR
  - Wednesday, November 9: 7:00 9:00PM OR
  - Thursday, November 10: 7:00 10:00PM
- Location Soc/Anthro Testing Center
  - Chapters will be covered in this order: Chapter 17, 18
- Practice Exams are Posted
  - Ex3A Practice Exam 3A
  - Ex3B Practice Exam 3B
- Deadline for alternate arrangements is Monday, 11/7/2016 at 4:30 PM (i.e., close of business)
  - An oral make-up exam will be required for making up the exam for all students not taking the exam on the above dates or having already made prior arrangements

Assignment	Due Date
Ex4-01-B7-18-06B Claisen Condensation	Friday, November 11, 2016
Ex4-02-B7-18-06C Claisen Condensation	Saturday, November 12, 2016
Ex4-03-B7-18-08B A-B Unsaturated Rxns	Sunday, November 13, 2016
Ex4-04-B7-18-08C A-B Unsaturated Rxns	Monday, November 14, 2016
Ex4-05-B7-18-09A Carb Classification	Tuesday, November 15, 2016
Ex4-06-B7-19-01 Hemiacetal Formation	Wednesday, November 16, 2016
Ex4-07-B7-19-02 Carbohydrate Reactions	Thursday, November 17, 2016
Ex4-08-B7-19-02 Kiliani-Fischer Synthesis	Friday, November 18, 2016
Ex4-09-B7-19-03 Important Carbohydrates	Monday, November 28, 2016
Ex4-10-B7-19-04 Carbs in Blood Types	Monday, November 28, 2016
Thanksgiving Break	
Ex4-11-B7-20-01 Amino Acid Nomenclature	Tuesday, November 29, 2016
Ex4-12-B7-20-01B Amino Acid Naming	Wednesday, November 30, 2016
Ex4-13-B7-20-02 Amino Acid Acid Base	Thursday, December 1, 2016
Ex4-14-B7-20-03 Edmann Degradation	Friday, December 2, 2016
Ex4-15-B7-20-04 Merrified Peptide Synthesis	Saturday, December 3, 2016
Ex4-16-B7-20-05 Synthesis in Peptides	Sunday, December 4, 2016

# Exam 4 (Cumulative Exam)

- Time:
  - Thursday, December 8: 2:00 4:00PM OR
  - Saturday, December 10: 10:00 am Noon OR
  - Saturday, December 10: 1:00 4:00PM
- Location Soc/Anthro Testing Center
  - Chapters will be covered in this order: Chapter 18, 19, 20
- Practice Exams are Posted
  - Ex4-90A Practice Final Exam
  - Ex4-90B Practice Final Exam
- Deadline for alternate arrangements is Monday, 12/5/2016 at 4:30 PM (i.e., close of business)
  - An oral make-up exam will be required for making up the exam for all students not taking the exam on the above dates or having already made prior arrangements

## Claisen Condensation

$$H_{3}C \xrightarrow{C} H_{3} \xrightarrow{H_{3}C} CH_{3} \xrightarrow{H_{3}C} CH_{3}$$

$$H_{3}C \xrightarrow{C} H_{3} \xrightarrow{H_{3}C} CH_{3} \xrightarrow{H_{3}C} CH_{3}$$

$$G \xrightarrow{C} H_{3} \xrightarrow{C} H_{3} \xrightarrow{C} CH_{3} \xrightarrow{C} H_{3} \xrightarrow{C} CH_{3}$$

Resonance structures hold this together

2 exchangeable H's need to hold  $\beta$ -keto ester together

## Work-up Options

#### **Similar to Malonic Ester Synthesis**

**E** - None of these products are a major product of the reaction that is shown.

**E** - None of these products are a major product of the reaction that is shown.

**E** - None of these products are a major product of the reaction that is shown.

No reaction after the first step, since there are not 2 exchangeable H's

**E** - None of these products are a major product of the reaction that is shown.

**E** - None of these products are a major product of the reaction that is shown.

$$CH_3$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

$$H_3C$$

NaOMe 
$$H_3O^+$$
 ?

NaOHe  $H_3O^+$  Pheat ?

A B C C D

**E** - None of these products are a major product of the reaction that is shown.