Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)


A


B


C


D

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

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)


E-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


## 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

| 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-UJ-B/-18-UYA Caro Classincation | Tuesaay, ivovemmer 13, <010 |
| 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 |

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)






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

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)





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

## Conjugate Addition

## Special Reaction of $\alpha, \beta$-unsaturated $\mathrm{C}=0$



## Hard vs Soft Bases

Hard Bases

- Small
- Charge highly localized
- Prefer 1,2-addition
- Examples
- C-MgBr
- C-Li
- $\mathrm{NaBH}_{4}$
- $\mathrm{LiAlH}_{4}$


## Soft Bases

- Larger
- Polarizable (charge can move around)
- Prefer 1,4-addition
- Examples
- CN
- OR
- NR2
- $\left(\mathrm{R}_{2}\right) \mathrm{CuLi}$


## Examples




## More Examples



Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)



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

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)


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

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)

2016-11-09 Q4



A


B


C


D
$E$ - None of the above

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)

2016-11-09 Q4

2) Cul

$E$ - None of the above

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)

2016-11-09 Q5



A


B


C


D
$E$ - None of the above

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)

2016-11-09 Q5



E - None of the above

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)
$\mathrm{NaN}\left(\mathrm{CH}_{3}\right)_{2}$
$\mathrm{HN}\left(\mathrm{CH}_{3}\right)_{2}$


F - None of the above

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order. (Example: xxxx a b)


2016-11-09 Q6

## $\mathrm{HN}\left(\mathrm{CH}_{3}\right)_{2}$



A



D

$E$

F - None of the above

