

ORGANIC CHEMISTRY 2 LECTURE GUIDE 2019

BY RHETT C. SMITH, PH.D.

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Executive Editor: Rhett C. Smith, Ph.D. You can reach him through our office at:

IQ@protonguru.com

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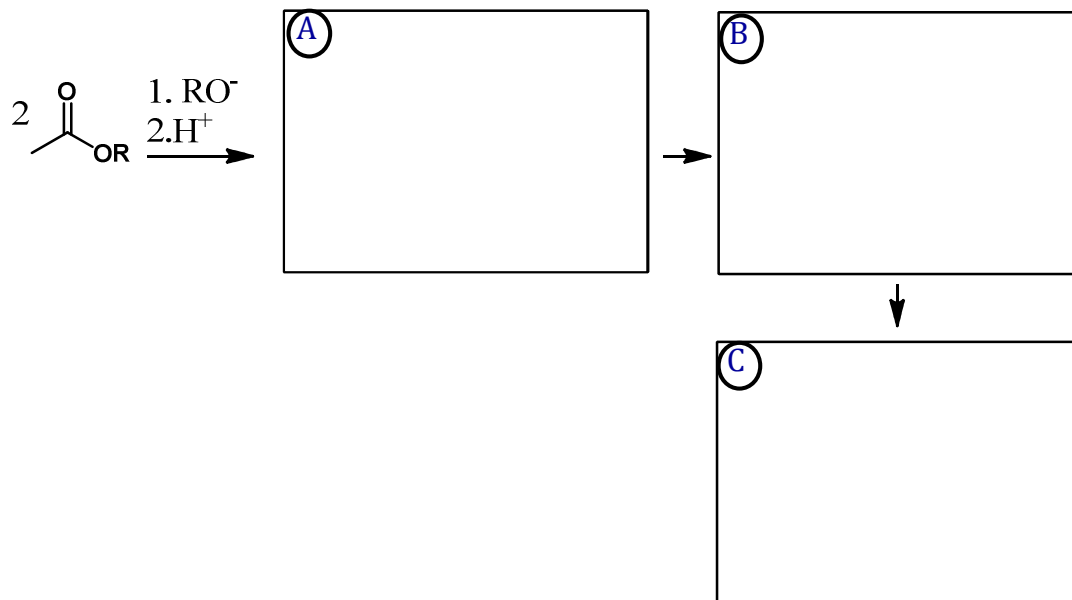
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Lesson VI.18. Claisen Condensation*Making β -keto esters*

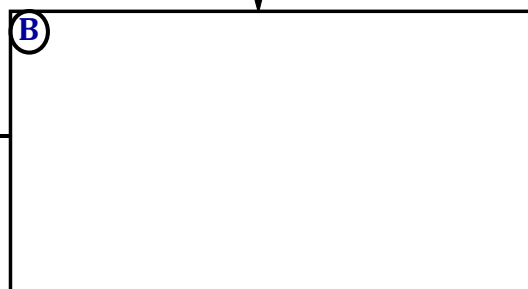
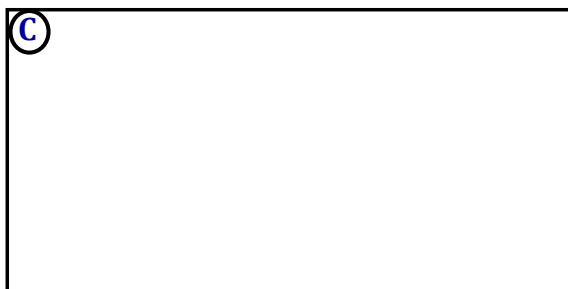
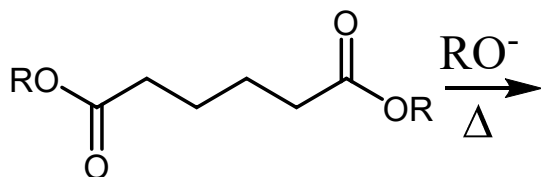
When the nucleophile is an enolate generated by deprotonation of an ester, the particular S_NAc reaction is called the **Claisen Condensation**:



Notes

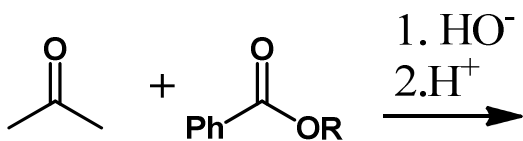
Lesson VI.18. Claisen Condensation*Intermolecular Claisen is called Dieckmann condensation*

If a Claisen condensation happens to occur intramolecularly, this is called a **Dieckmann condensation**:

Notes

Lesson VI.18. Claisen Condensation*Enolate selectivity*

A reaction that is essentially the same as the Claisen reaction involves using an enolate from a ketone or aldehyde as the nucleophile to attack an ester's carbonyl carbon:



A

Note that the difference in **anion stability** of the enolate derived from a ketone or aldehyde versus that derived from an ester leads to a strong preference for deprotonation at the alpha carbon of the ketone or aldehyde:

B

Notes