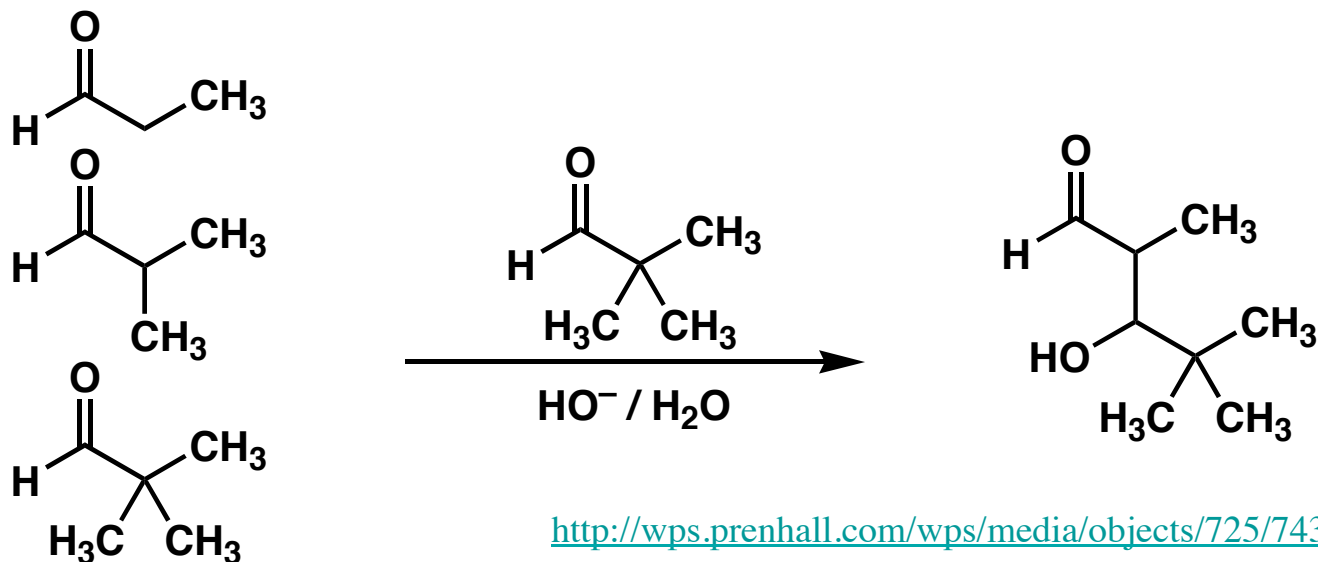


# Summary and Discussion Problems

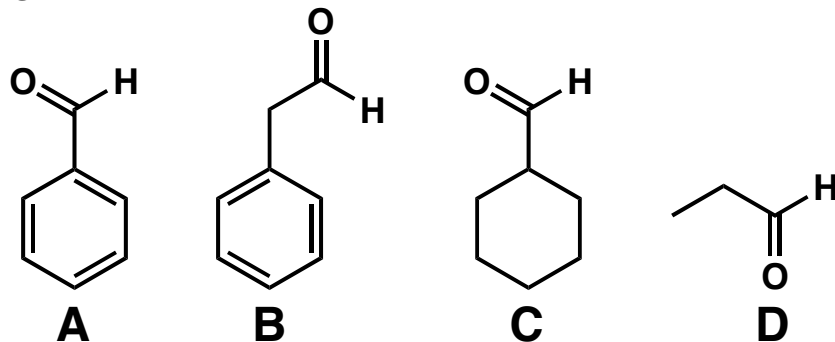
Given that carbonyl compounds possess both nucleophilic and electrophilic character, it is no wonder that they can react with themselves. Aldol additions are examples of this behavior.

## Aldol Reactions - Synthesis



(1) Which aldehyde cannot undergo an aldol addition when mixed with base?

- A
- B
- C
- D

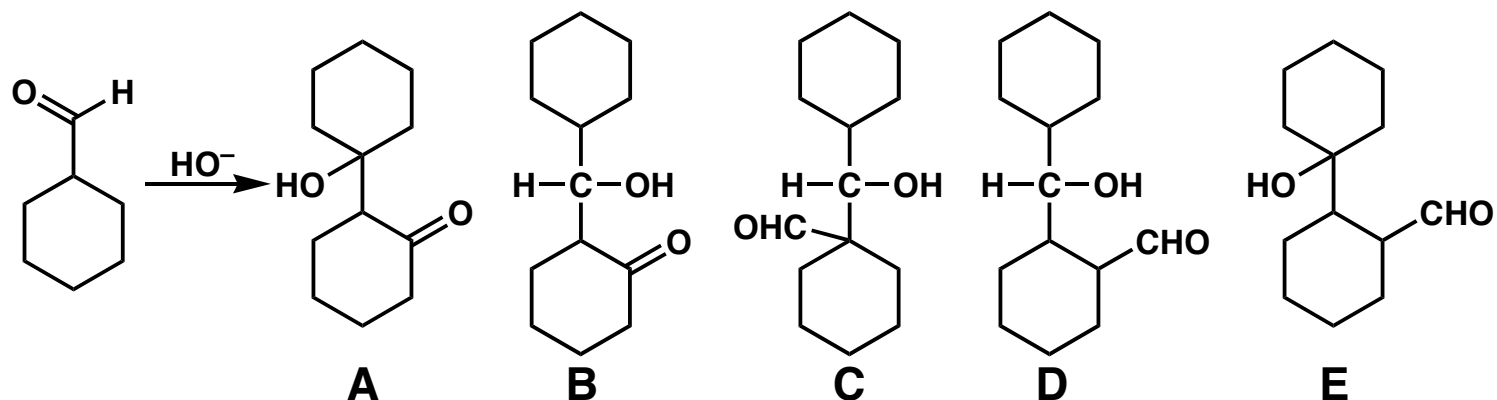


- all of them will undergo a base-catalyzed aldol addition

# Discussion Problems

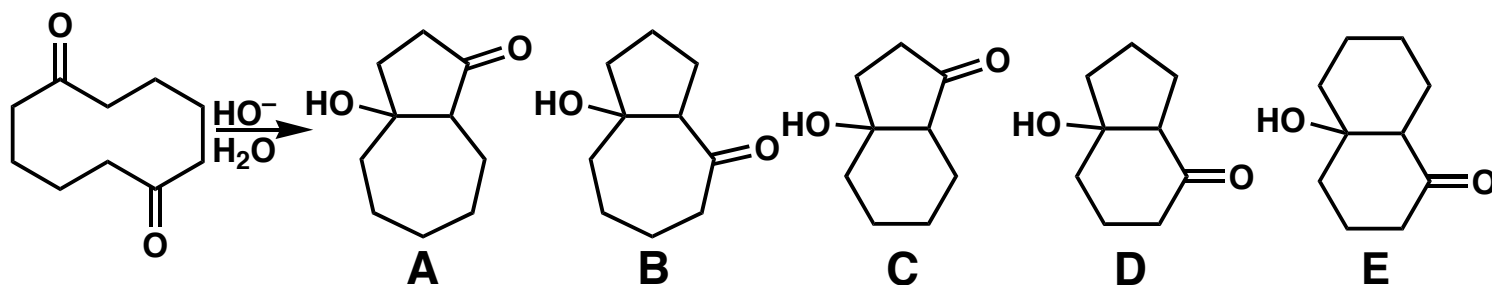
(3) What is the major organic product of this aldol addition reaction?

- A
- B
- C
- D
- E



What is the major product of this reaction?

- A
- B
- C
- D
- E



# Discussion Problem

## The Robinson Annulation Reaction

**Annulation** is a chemical reaction in which a new ring is constructed on another molecule.

Conjugate addition	How conjugation changes the reactivity of carbonyl groups
Electrophilic addition to alkenes	Enolisation
Diels-Alder reactions	Direct conjugate addition with enols
Nucleophilic substitution	Conjugate addition of enolates
Elimination	<b>Robinson annulation</b>
Electrophilic aromatic	Dimedone synthesis

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