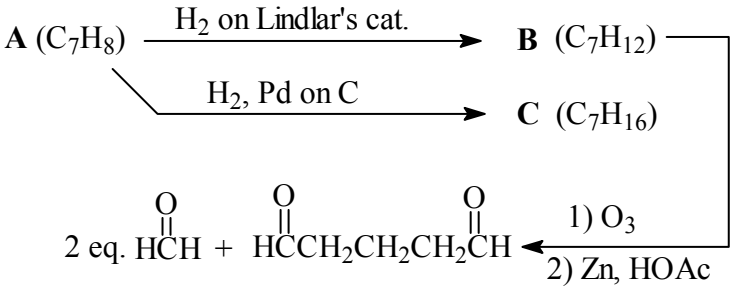
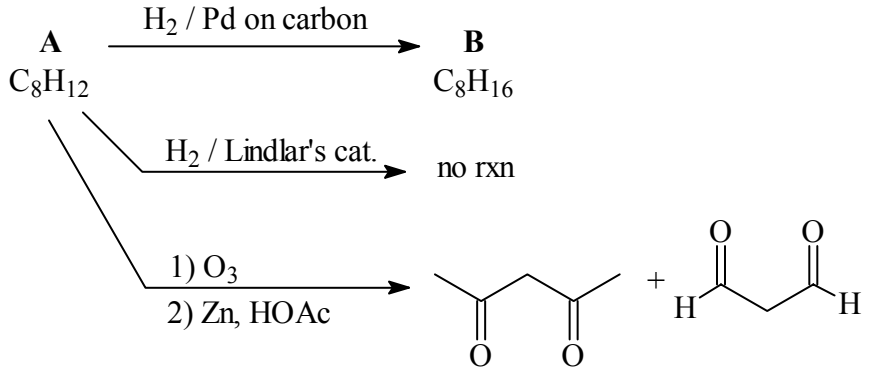
CHM 201
Roadmap Problems

1. An unknown compound (**A**) has a formula of **C_7H_8**. Treatment of **A** with H_2 on Lindlar's catalyst gives compound **B** (C_7H_{12}). Treatment of **A** with H_2/Pd on carbon (standard hydrogenation) gives compound **C** (C_7H_{16}). Ozonolysis of **B** followed by a Zn/acetic work-up gives pentanedial and 2 equivalents of formaldehyde.



Propose structures for **A**, **B**, and **C** that are consistent with these data.

2. An unknown compound (**A**) has a formula of **C_8H_{12}**. Treatment of **A** with H_2/Pd-carbon gives **B** (C_8H_{16}). Treatment of **A** with H_2 on a Lindlar catalyst gives no reaction. Ozonolysis of **A** followed by workup with Zn, HOAc affords 2,4-pentanedione and propanedial shown below.



a) How many double bonds does **A** have? _____

b) How many triple bonds does **A** have? _____

c) How many rings does **A** have? _____

d) Propose structures for both **A** ***and*** **B** that are consistent with these data.

A **B**