CHM 3150 Organic Chemistry II
Dr. Laurie S. Starkey, Cal Poly Pomona
Chapter 19 Aldehydes & Ketones Part 3 – Practice Problems

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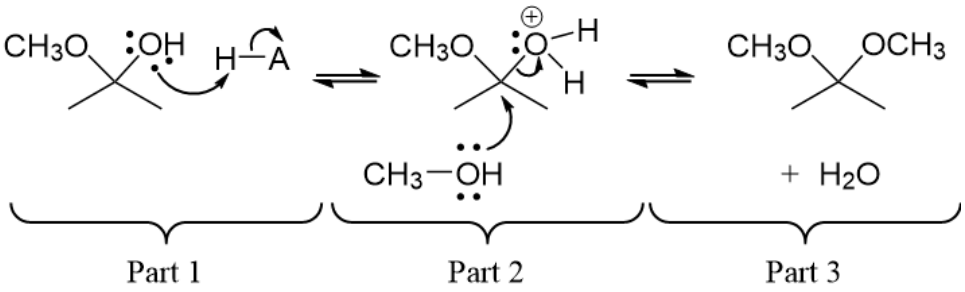
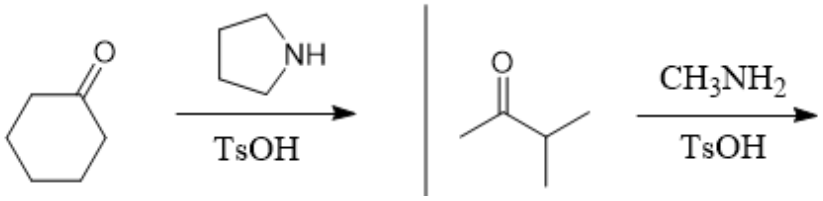
1



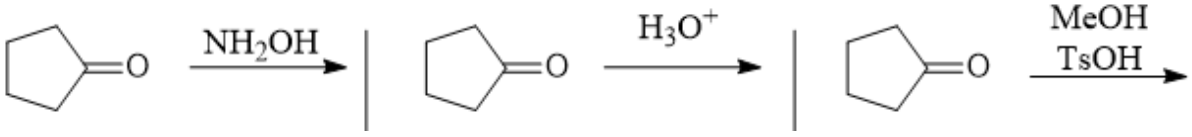
Which mechanism part(s) has an error in it?

2

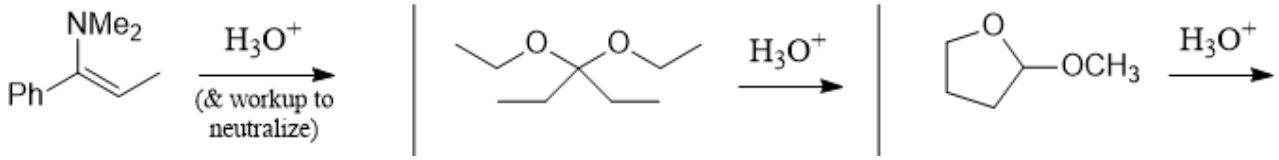
Predict the major products for the following reactions.



3

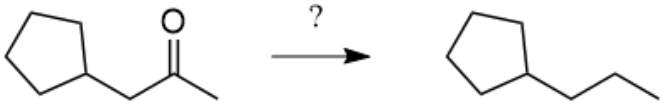


4 Draw ALL products for the following reactions.



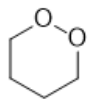
5

Which of the following sets of reagents would accomplish the given transformation?

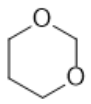


7

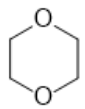
One of the following compounds acts like an ether (good solvent, unreactive), another is potentially explosive when heated, and another reacts quickly with aqueous acid. Match each structure to its description.



1,2-dioxane



1,3-dioxane



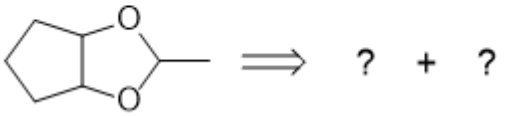
1,4-dioxane

6 Match the reaction/reagents to the correct names.

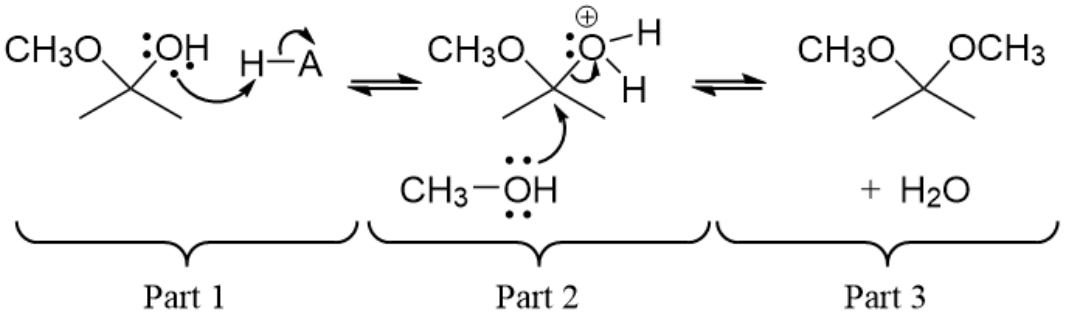
$Zn(Hg)$, HCl, H_2O	1) $O{=}S(CH_3)_2$ $(COCl)_2$ 2) Et_3N	H_2, Ni	1) NH_2NH_2 2) KOH, heat	H_2, Pd $CaCO_3$ quinoline

8

Which two compounds would combine to produce the following acetal?



1 Which of the following mechanism part(s) has an error in it?



A) Part 1

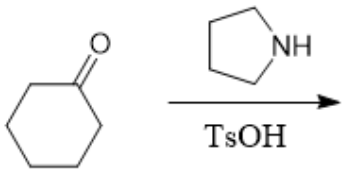
B) Part 2

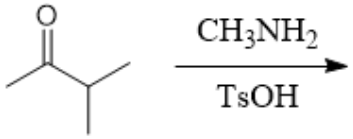
C) Part 3

D) Part 2 and Part 3

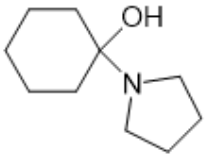
E) None of the above
(no errors are shown)

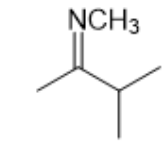
2 Predict the major products for the following reactions.



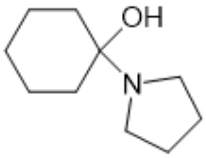


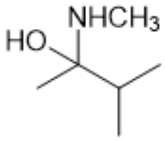
A)



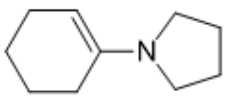


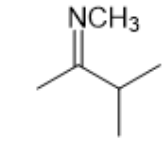
B)



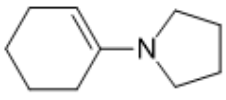


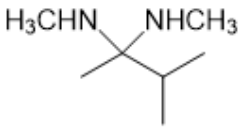
C)



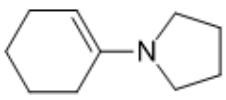


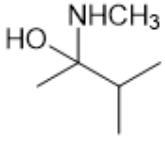
D)



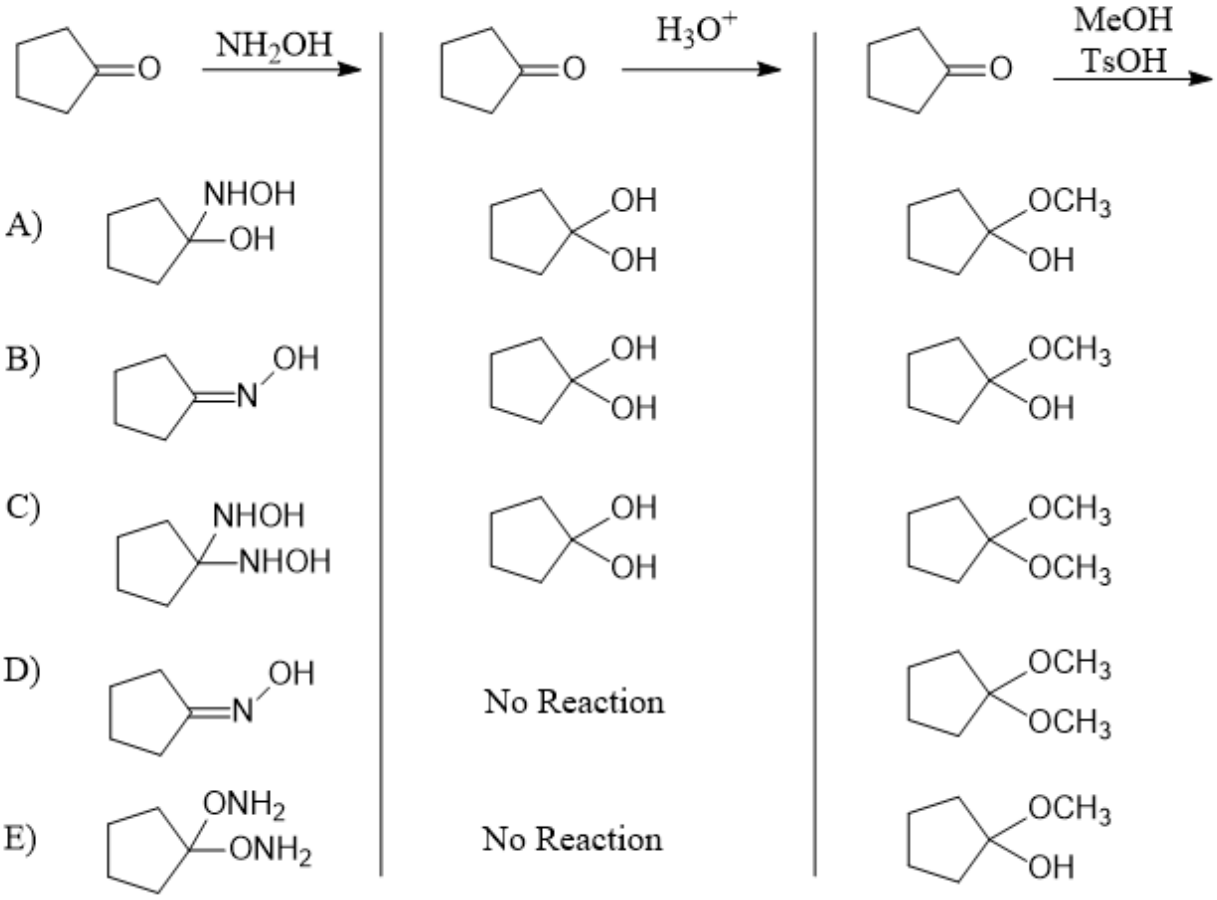


E)

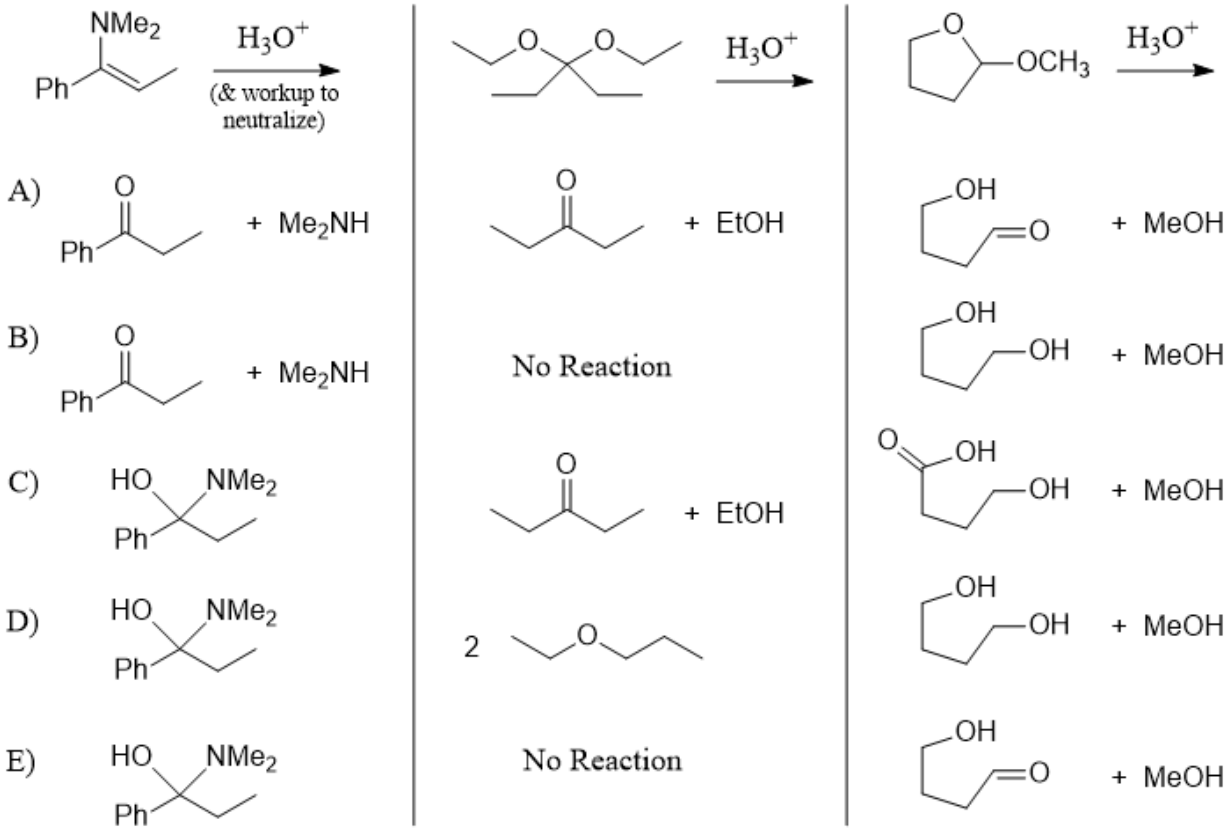




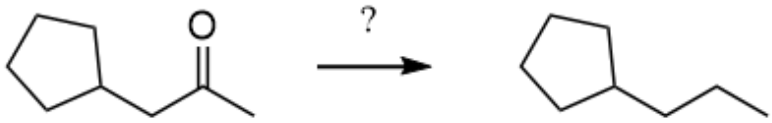
3 Predict the major products for the following reactions.



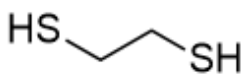
4 Draw ALL products for the following reactions.



5 Which of the following sets of reagents would accomplish the given transformation?



I. 1) $LiAlH_4$; 2) H_3O^+

II. 1)  TsOH; 2) Raney Ni

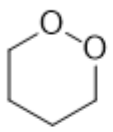
III. 1) NH_2NH_2, TsOH; 2) NaOH, H_2O, heat

A) I only
B) II only
C) II and III only
D) I and II only
E) I, II and III

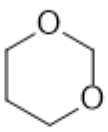
6 Match the reaction/reagents to the correct names.

	$Zn(Hg)$, HCl, H_2O	1) $O{=}S(CH_3)_2$ $(COCl)_2$ 2) Et_3N	H_2, Ni	1) NH_2NH_2 2) KOH, heat	H_2, Pd $CaCO_3$ quinoline
A)	Clemmenson	Swern	Raney	Wolff-Kishner	Lindlar's
B)	Wolff-Kishner	Clemmenson	Lindlar's	Swern	Raney
C)	Clemmenson	Raney	Swern	Wolff-Kishner	Lindlar's
D)	Wolff-Kishner	Swern	Lindlar's	Clemmenson	Raney
E)	Wolff-Kishner	Swern	Raney	Clemmenson	Lindlar's

7 One of the following compounds acts like an ether (good solvent, unreactive), another is potentially explosive when heated, and another reacts quickly with aqueous acid. Match each structure to its description.



1,2-dioxane



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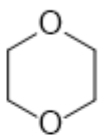
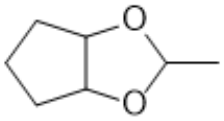


1,4-dioxane

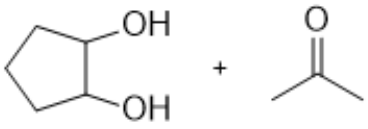
A)	explosive	ordinary ether	reacts with H_3O^+
B)	explosive	reacts with H_3O^+	ordinary ether
C)	reacts with H_3O^+	explosive	ordinary ether
D)	reacts with H_3O^+	explosive	explosive
E)	ordinary ether	reacts with H_3O^+	explosive

8 Which two compounds would combine to produce the following acetal?



$\Longrightarrow$? + ?

A)



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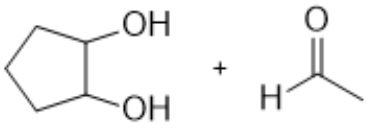

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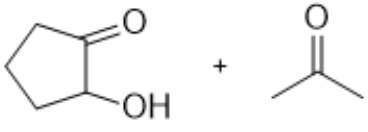
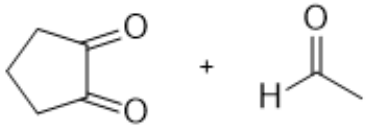


D)



E)