

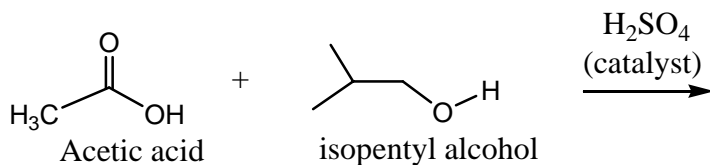
CHEM 252 PRACTICE EXAM

What are the final products of the reaction below.

What is the limiting reagent for this reaction?

Is Sulfuric acid (H₂SO₄) consumed in this reaction?

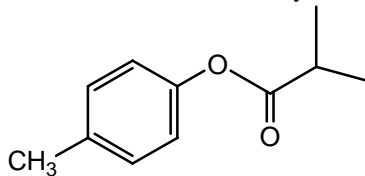
Reaction equation:



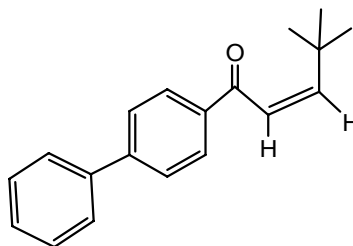
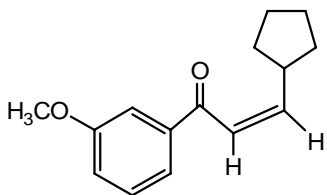
Reagent table:

Name	MW	mp	bp	Density	amt used/exp	moles used/exp	notes
Acetic acid	60		130C	1.1 g/mL	3.5 mL	0.064	
Isopentyl alcohol	88		156 C	0.9 gmL	2.5 mL	0.025	
Sulfuric acid	98		180C	1.9 g/mL	0.5 mL	0.09	Catalyst

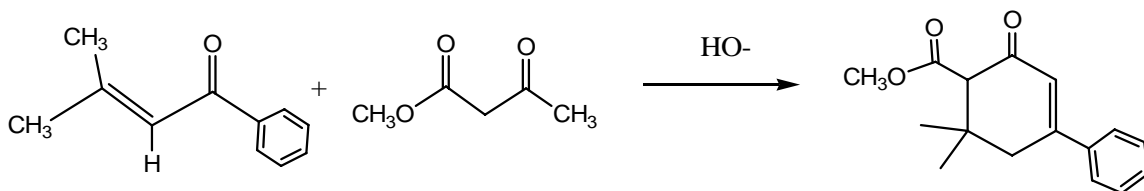
What acid and ester would you use to synthesize the ester below.



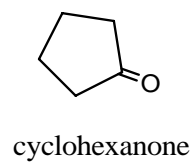
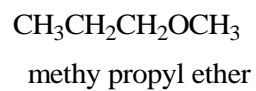
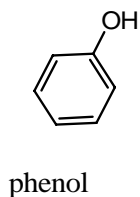
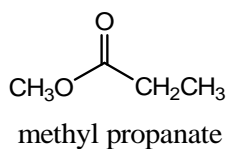
What is the Ketone and aldehyde that reacted in an Aldol condensation to produced the following chalcones :



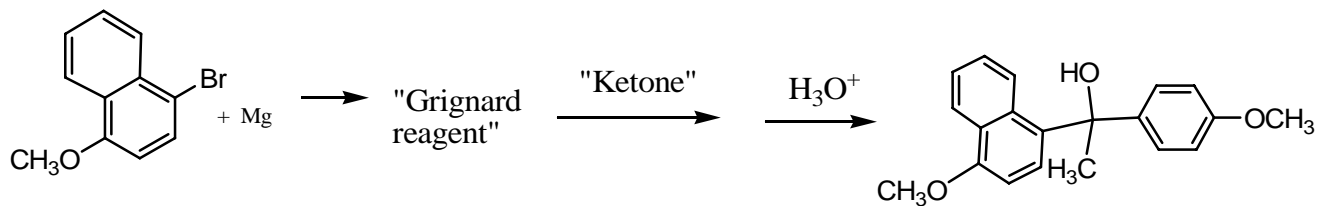
Draw the mechanism for the reaction below (it is a Micheal addition followed by a Aldol dehydration)



Circle the compounds below could NOT be used as a solvent in a Grignard reaction?



For the Grignard reaction shown below, draw the structure of the Grignard reagent and ketone that it would be added to make the final product listed.



Grignard:

Ketone:

b) (6 pts) Draw the structures of the **2 main impurities** of this reaction—do NOT include any magnesium salts. (Assume that some water got into your reaction mixture).

c) (4 pts) Which step of the above reaction is faster: 1) formation of the Grignard reagent or 2) reaction of the Grignard reagent with the Ketone.