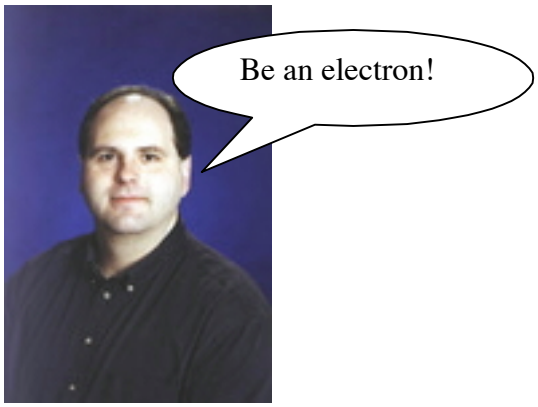
ORGANIC CHEMISTRY 342 PRACTICE FINAL

Well, here it is, the practice test you have been waiting for. Work in groups and do the best that you can….hopefully it is easy. Good luck and have a great summer.

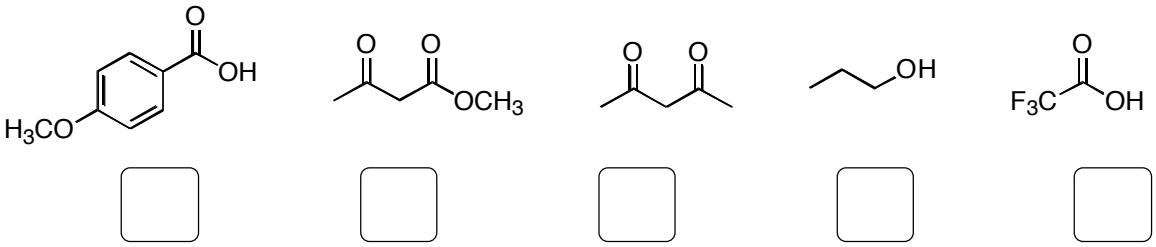
-SI GUY

Words of Wisdom from:



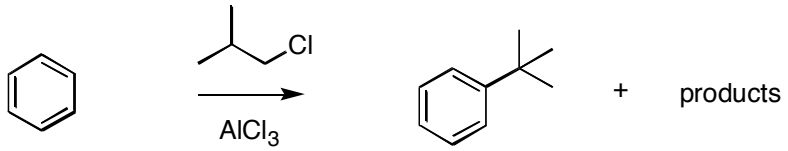
Dr. Cook

1) Shown below is a list compounds. Circle the most acidic protons and rank in order of increasing acidity (1=most, 5=least).

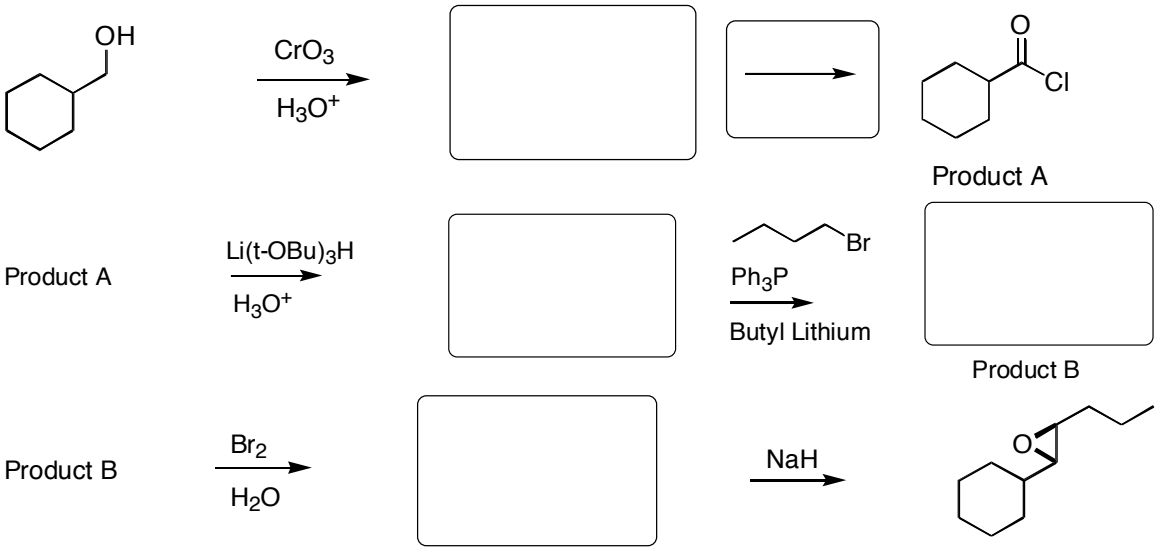


2) Which is more acidic, *para*-methoxybenzoic acid or *para*-nitrobenzoic? Explain.

3) The Friedel-Krafts reaction between 1-chloro-2-methylpropane yields a mixture of products. Provide a mechanism for the general transformation and explain the appearance of the product shown below.

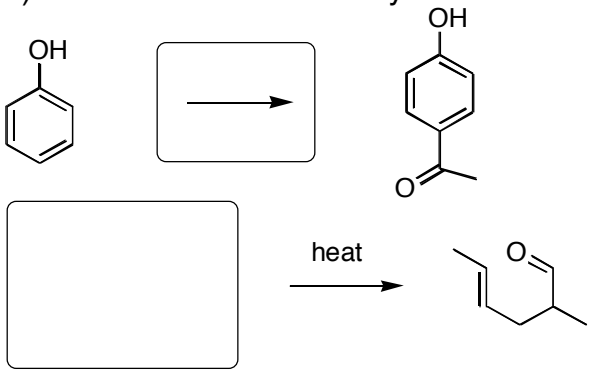


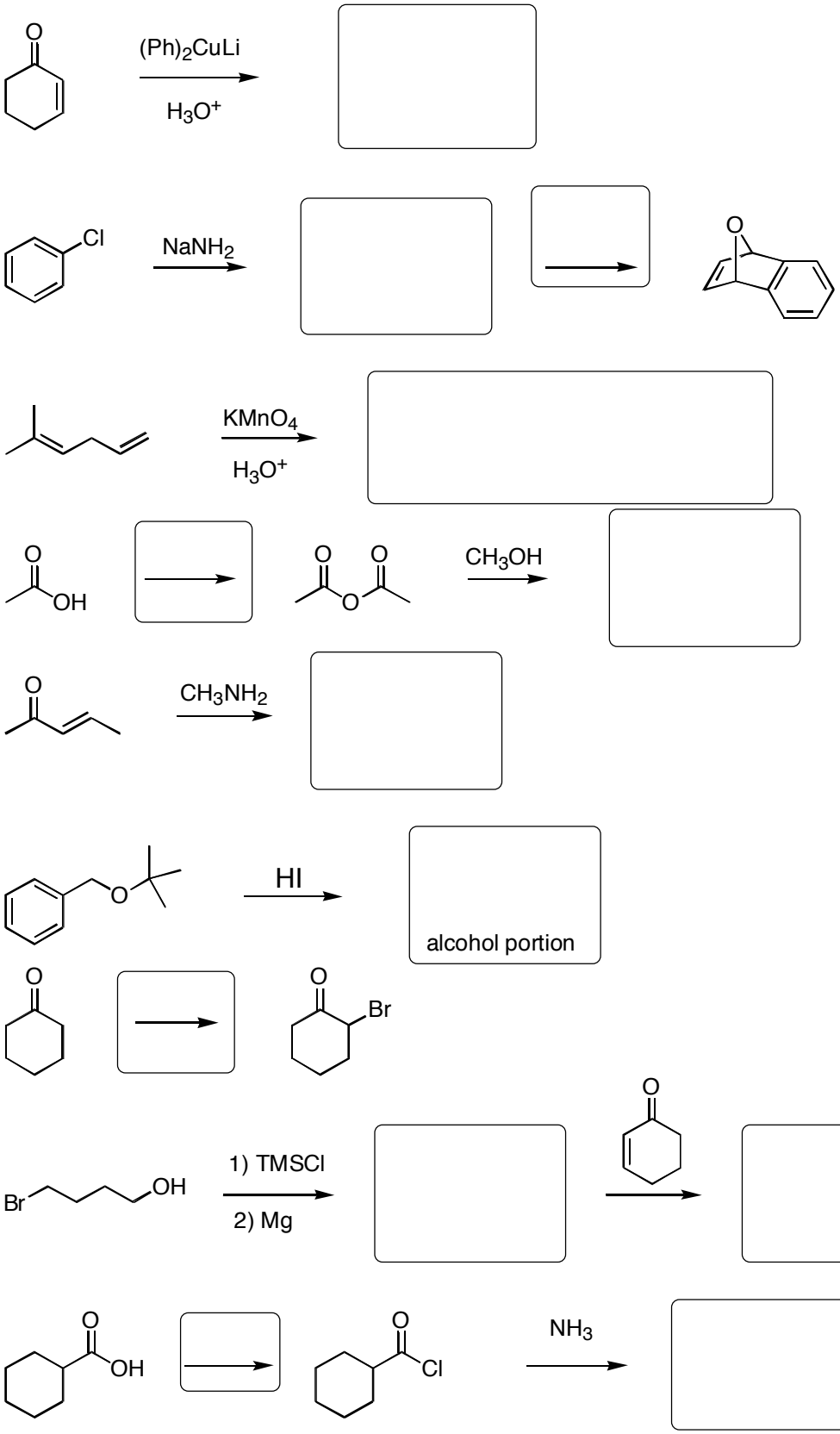
3) Please fill in the boxes with the correct reagents/products.



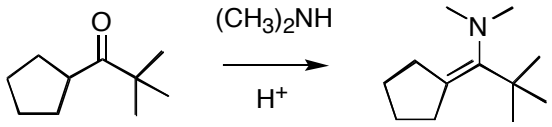
Dr. Cook says the first part of this synthesis seems a bit long, he states that there is a much simpler way to get to the product B without even making product A. Explain what, if any, modifications that can be made.

4) Reactions……need I say more????



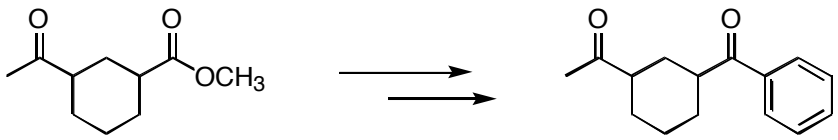

O
(Ph)2CuLi
H3O+
Cl
NaNH2
O
KMnO4
H3O+
O
OH
O
O
O
CH3OH
O
CH3NH2
O
HI
alcohol portion
O
O
Br
Br
OH
1) TMSCl
2) Mg
O
O
OH
O
Cl
NH3

5) Provide a mechanism for the following transformation.



6) Yep….you guessed it, Organic Synthesis (of course more than one step is required).

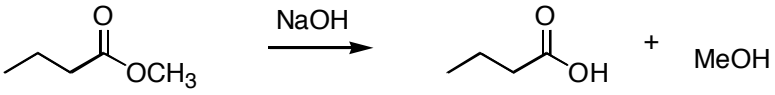
Route 1



Propose and alternate method for preparing the product.

Route 2

7) Write the mechanism for the following reaction.



Usefull Things to Study:

Mechanisms
- Hydrolysis
  - Esters
  - Amides
- Imines, enamines
- Freidel Crafts
  - Acylation
  - Alkylation
- Wittig Mechanism
- Acetal Formation

Spectroscopy
- If you look over Test 1 and the combined practice problems, your golden.

***Reactions
- Reactions
- Reactions
- Reactions

Electrophilc Aromatic Substitutions
- Directing groups
- Resonance of

Acidity of
- Alcohols
- Acids
- Carbonyl Compounds