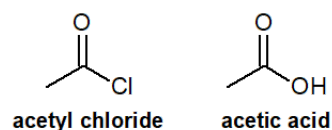


22.14: SOLUTIONS TO ADDITIONAL EXERCISES

General Review

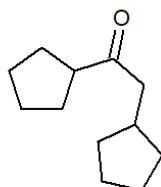
22-1

Possible set of reactants:

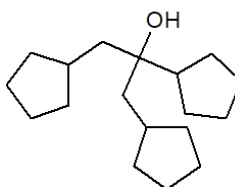


22-2

One equivalent:

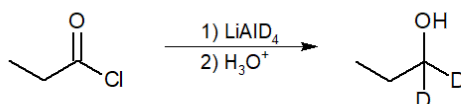


Two equivalents:

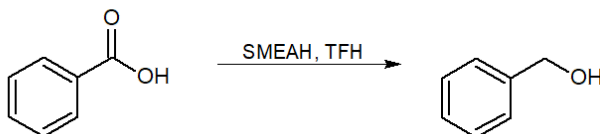


22-3

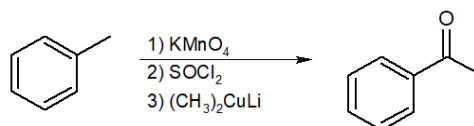
a)



b)



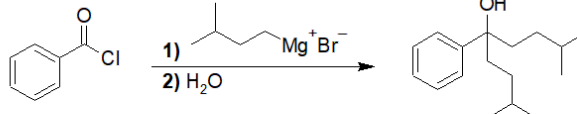
22-4



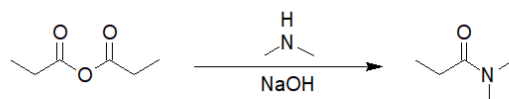
Interconversion of Acid Derivatives by Nucleophilic Acyl Substitution

22-5:

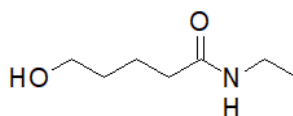
a)



b)



22-6:



N-ethyl-5-hydroxypentanamide

22-7:

Answer: B

Transesterification

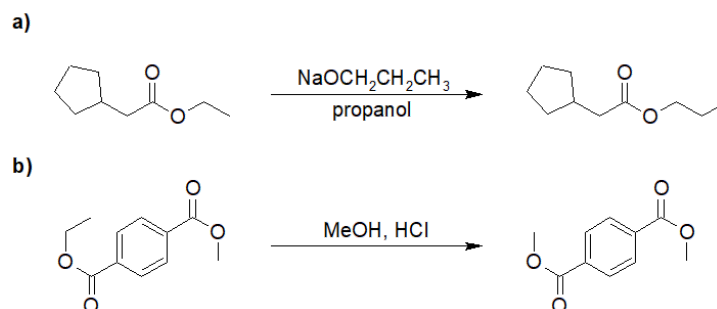
22-8:

Answer: D

22-9:

Under acidic conditions, the carbonyl oxygen atom is protonated, making it a better electrophile for the reaction to occur. Under basic conditions, the alcohol we are trying to add is deprotonated, making it a better nucleophile.

22-10:

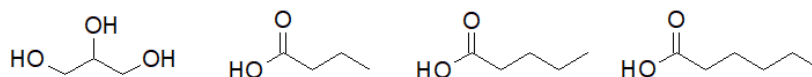


Hydrolysis of Carboxylic Acid Derivatives

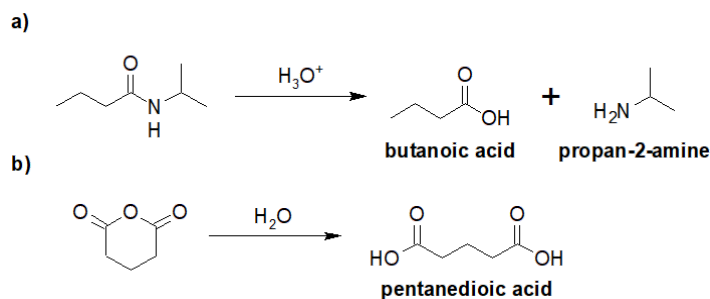
22-11:



22-12:

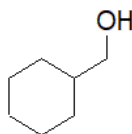


22-13:

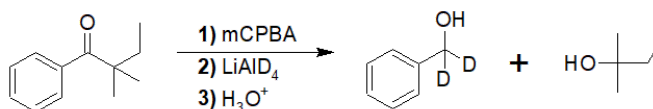


Reduction of Acid Derivatives

22-14:



22-15:

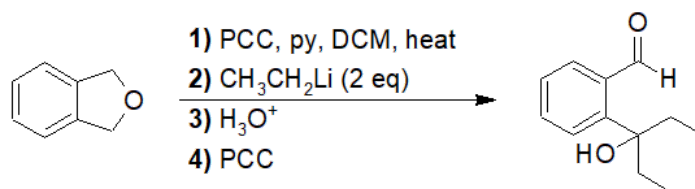


22-16:

Answer: C

Reactions of Acid Derivatives with Organometallic Reagents

22-17:

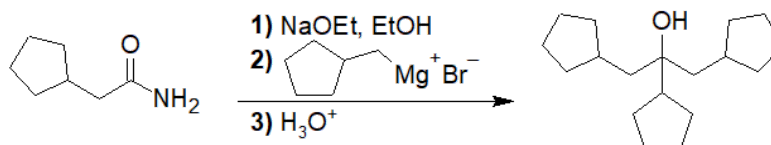


22-18:

Answer: C

22-19:

A possibly better route of synthesis:



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