

CHT212

Quiz I

Starting from benzene, outline a synthesis of the compound 1-ethyl-4-methylbenzene. You may use any inorganic reagents and any organic reagents of four or fewer carbon atoms. If your synthesis produces any other products, note what they are and why they are formed.

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Quiz II

Outline a synthesis of the following compounds from ethylbenzene:

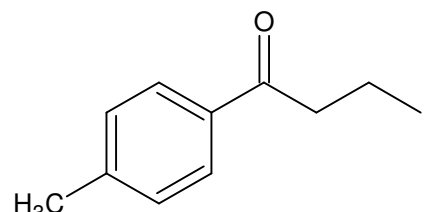
1. 1-bromo-1-phenylethane

2. 1-bromo-4-ethylbenzene

3. benzoic acid

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Quiz III

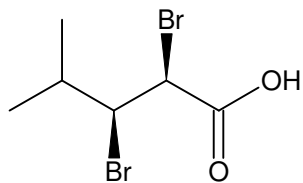
Outline a synthesis of 4-methylbutyrophenone, shown below, starting from benzene.



4-methylbutyrophenone

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Quiz IV

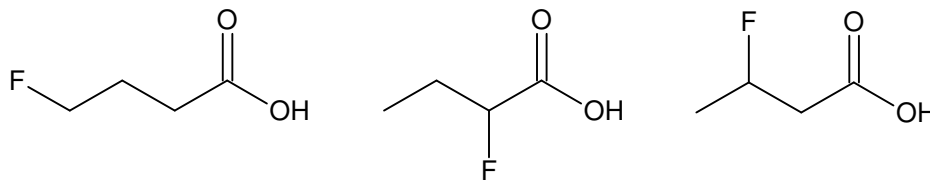
1. Provide an unambiguous, systematic name for the following compound:



2. Draw the structure of the compound 3-phenylpropanoic acid.

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Quiz V

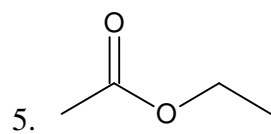
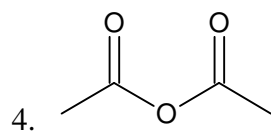
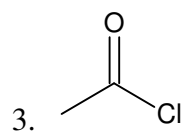
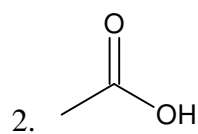
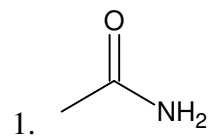
1. Provide unambiguous systematic names for the following compounds:



2. Rank the above compounds in terms of increasing acidity and explain your answer.

CHT 212
Quiz VI

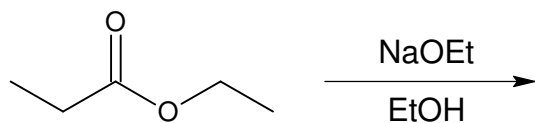
Provide unambiguous, systematic names for the following compounds:



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Quiz VIII

Ethyl propanoate is treated with sodium ethoxide in ethanol.

1. Predict the product of this reaction:



2. What is the name of this reaction?

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Quiz IX

Propose a method for synthesizing 1-butylamine, starting from 1-butanol.

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Quiz X

Show all steps involved and all intermediate products in the malonic ester synthesis of 5-methylhexanoic acid.

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Quiz XI

Propose a method of preparing 2-methylcyclopentanone from cyclopentanone using enamine chemistry.