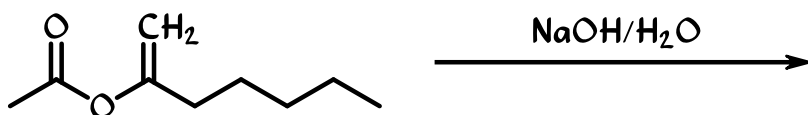


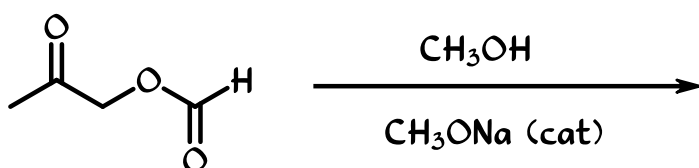
Carboxylic Acids and Carboxylic Acid Derivatives

Question 1: Complete each of the following reactions

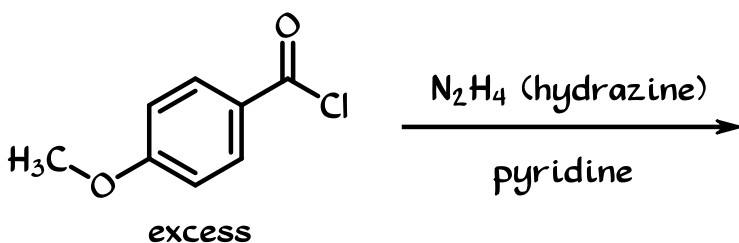
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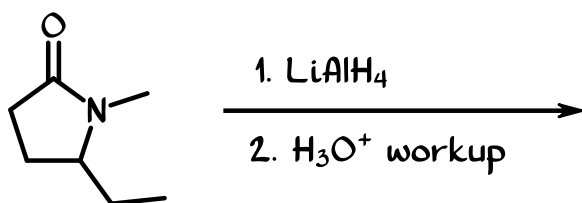
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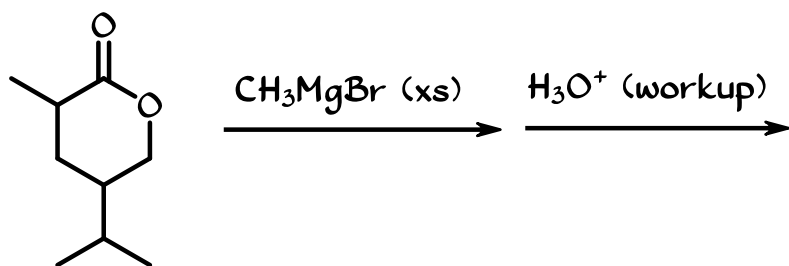
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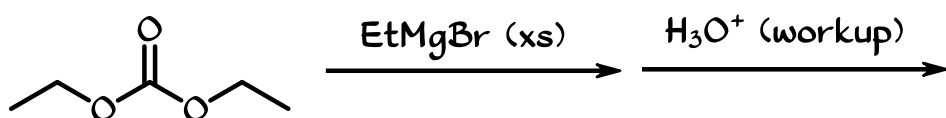
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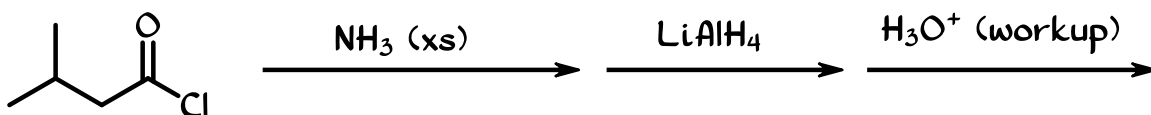
E



F



G

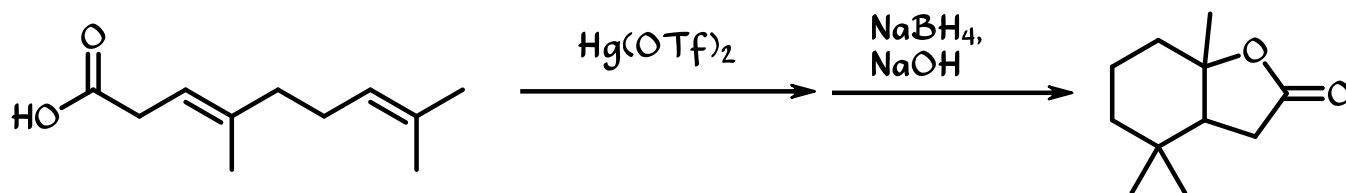


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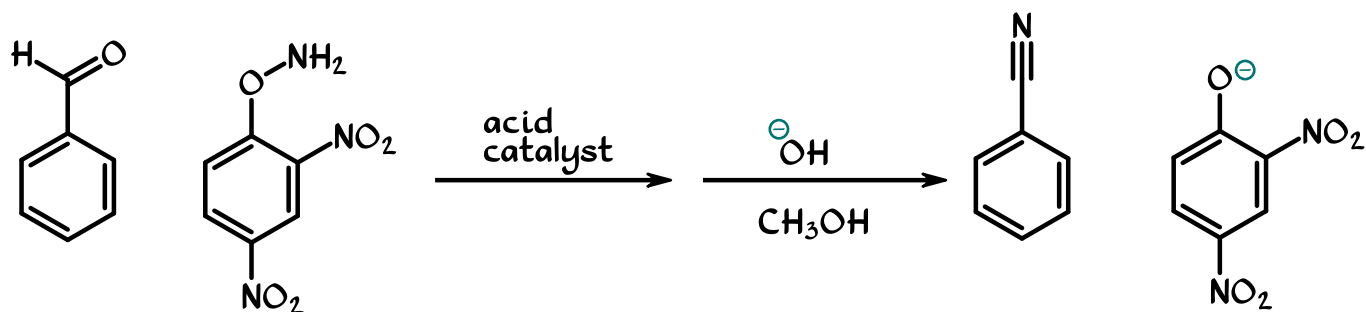


Question 2: Propose a reasonable mechanism for each of the following transformations

A

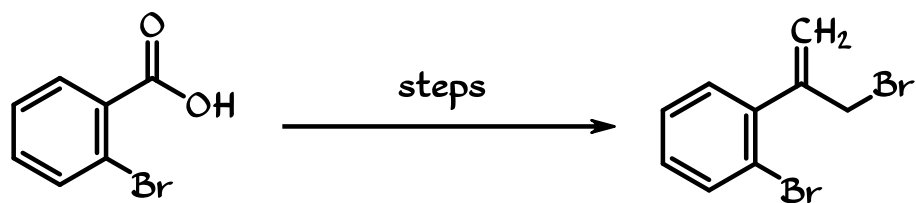


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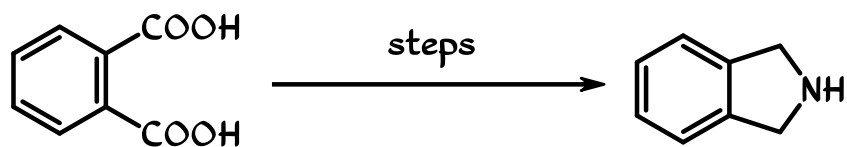


Question 3: Outline a synthesis of each of the following compounds using the indicated starting material

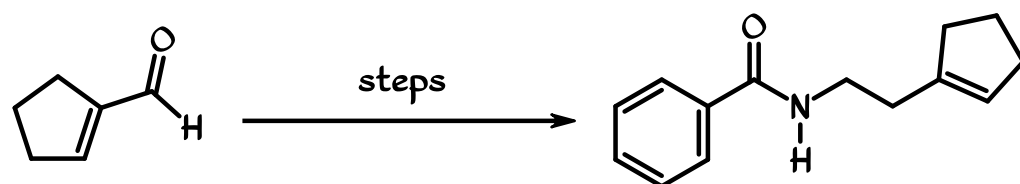
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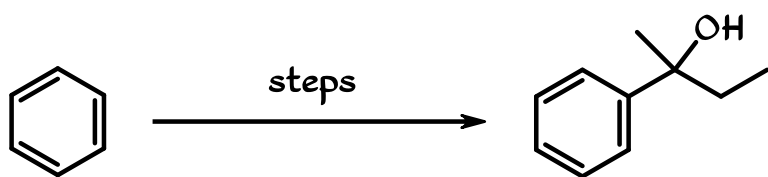
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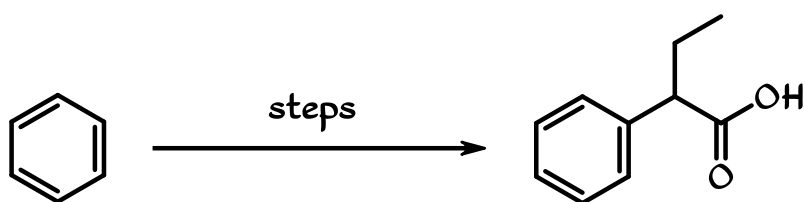
C



D



E



F

