

# 淡江大學 108 學年度日間部轉學生招生考試試題

系別：化學學系三年級

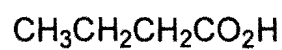
科目：有機化學

考試日期：7月24日(星期三) 第2節

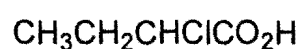
本試題共 14 大題， 3 頁

本試題雙面印刷

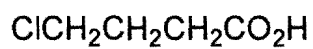
1. a. List the following carboxylic acids in order from strongest acid to weakest acid. (5 pt)



A



B



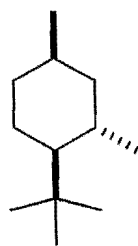
C



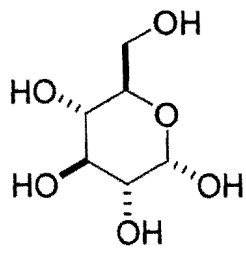
D

b. How does the presence of an electronegative substituent such as Cl affect the acidity of a carboxylic acid? (5 pt)

2. Draw the most stable chair conformation of the following molecules. (10 pt)



A



B

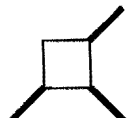
3. Which of the following is optically active? (5 pt)



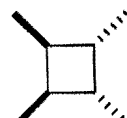
A



B

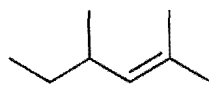


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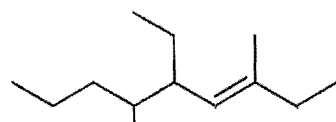


D

4. Name the following: (5 pt)



A



B

5. Draw the following structures and determine which of the following compounds is the most stable? Which is the least stable? (10 pt)

3,4-dimethyl-2-hexene; 2,3-dimethyl-2-hexene; 4,5-dimethyl-2-hexene

背面尚有試題

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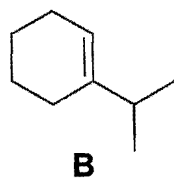
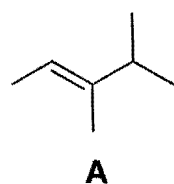
科目：有機化學

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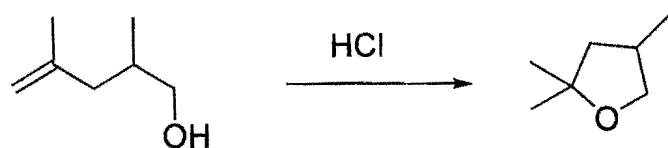
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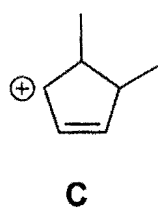
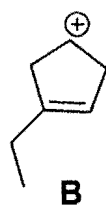
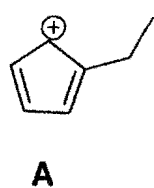
6. What is the major product obtained from the reaction of HBr with each of the following? (5 pt)



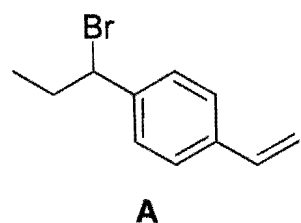
7. Propose a reasonable mechanism for the following reaction (5 pt)



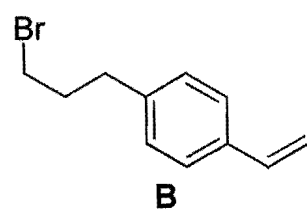
8. Rank the following carbocations in order from the most stable to least stable. Explain (10 pt)



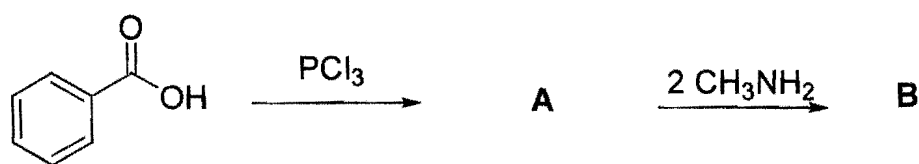
9. Which alkyl halide undergoes an E1 reaction more rapidly? Explain. (5 pt)



or



10. What are the products of the following reactions? (5 pt)



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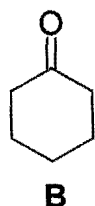
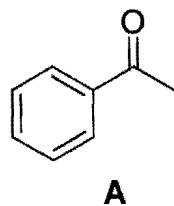
科目：有機化學

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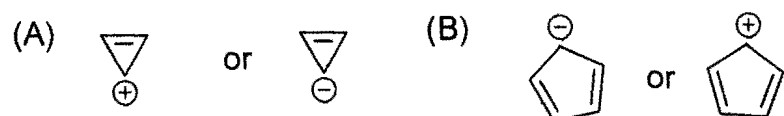
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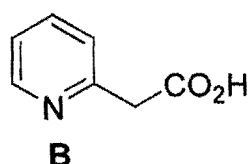
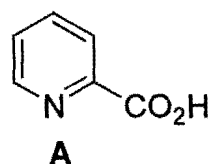
11. Draw the enol tautomer for each of the following compounds. (5 pt)



12. Which ion in each of the following pairs is more stable and why? (10 pt)



13. Which of the following compounds is easier to decarboxylate? Explain (5 pt)



14. How could  $^1\text{H}$  NMR distinguish between the compounds in each of the following pairs? (10 pt)

