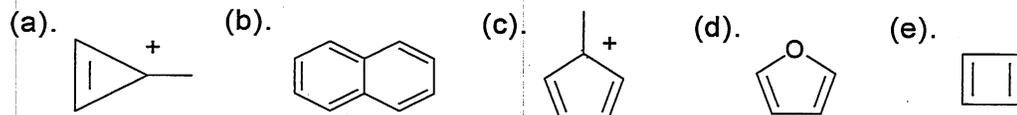


大同大學 98 學年度轉學入學考試試題

考試科目:有機化學 所別:化學工程學系 第 1/2 頁

註:本次考試 不可以參考自己的書籍及筆記; 不可以使用字典; 不可以使用計算器。

1. Determined whether the following compounds are aromatic or antiaromatic. (10%)



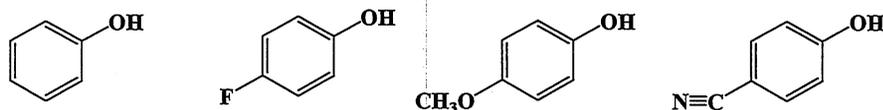
2. Predict the products from reaction of 1-hexyne with the following reagents: (12%)

- (a) 1 equiv HBr (b) 1 equiv Cl_2 (c) H_2 , Lindlar catalyst
(d) NaNH_2 in NH_3 , then CH_3Br (e) H_2O , H_2SO_4 , HgSO_4 (f) 2 equiv HCl

3. What products would you obtain from reaction of pentan-1-ol with the following reagents? (8%)

- (a) PBr_3 (b) SOCl_2 (c) CrO_3 , H_2O , H_2SO_4 (d) PCC

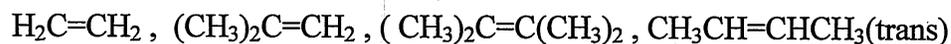
4. Rank the following substituted phenols in order of increasing acidity, and explain your answer: (4%)



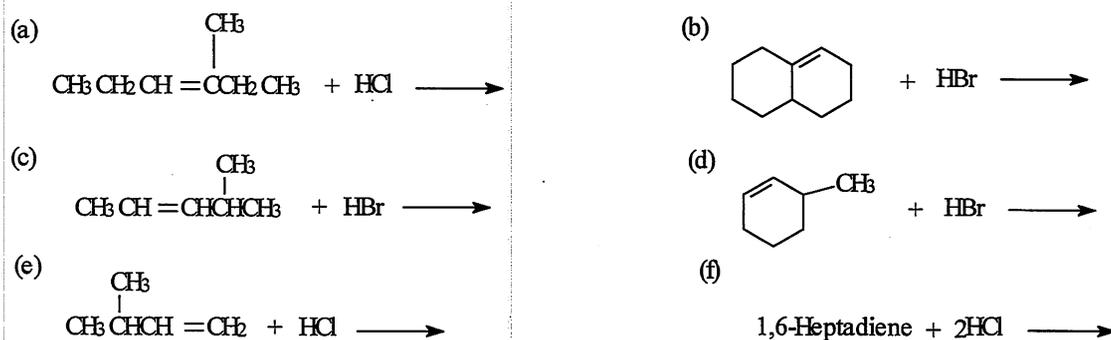
5. Rank the compounds in each group according to their reactivity toward electrophilic substitution. (6%)

- (a) Chlorobenzene, *o*-dichlorobenzene, benzene
(b) *p*-Bromonitrobenzene, nitrobenzene, phenol
(c) Fluorobenzene, benzaldehyde, *o*-xylene

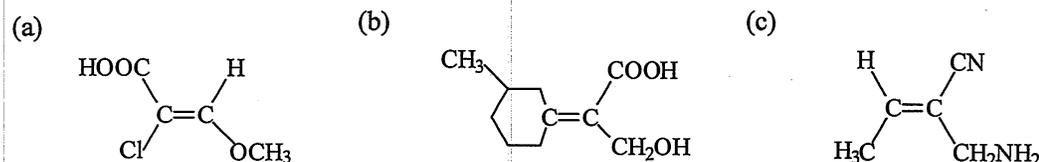
6. Rank the following alkenes in order of increasing stability. (8%)



7. Predict the product(s) of the following reactions: (18%)



8. Assign *E* or *Z* configuration to each of the following alkenes: (6%)



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大同大學 98 學年度轉學入學考試試題

考試科目：有機化學

所別：化學工程學系

第 2/2 頁

註：本次考試 不可以參考自己的書籍及筆記； 不可以使用字典； 不可以使用計算器。

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9. Identify the reagents in following scheme: (28%)

