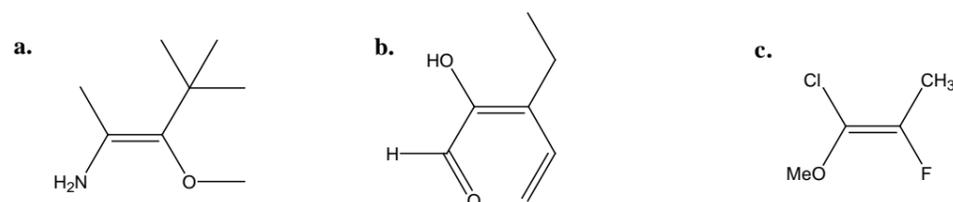


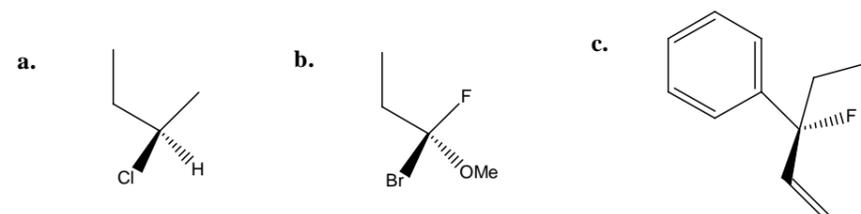
國立嘉義大學 100 學年度  
應用化學系碩士班 (乙組) 招生考試試題

科目：基礎有機化學

1. Assign *trans* or *cis* configuration for the following compounds: (12 %)



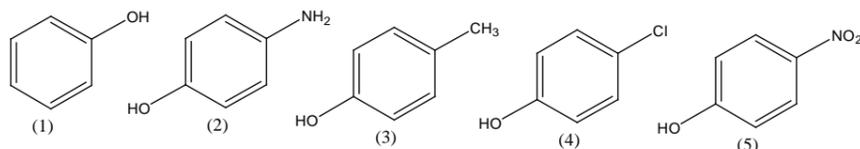
2. Describe the absolute configuration (R or S) for the following compounds: (12 %)



3. Write structural formulas for the following compounds: (16%)

- (a) *isopropylcyclohexa-1,3-diene*      (b) pyrrole  
(c) *para-fluorophenol*      (d) ethyl acetate

4. Assign the order of the acidity from the following compounds: (10 %).



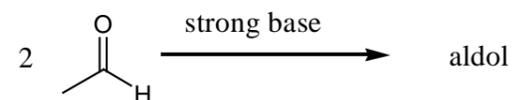
5. Arrange the expected reactivity order of different acyl derivatives toward nucleophile:

- (a) acid chloride   (b) acid anhydride   (c) ester   (d) amide (10 %)

6. For  $S_N1$  reaction, what effect in reaction rate would you expect for the following changes: (10%)

- (a) The concentration of nucleophile is increased.  
(b) The steric effect of substrate is increased.  
(c) The solvent polarity is increased.

7. Write the mechanism of aldol reaction: (15 %).



8. Explain the difference between constitutional isomers, stereoisomers, and conformational isomers, enantiomers, tautomers? (15 %)