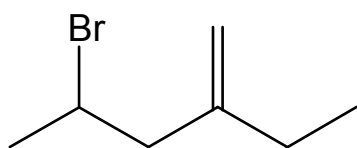
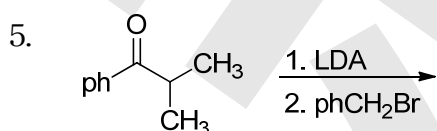
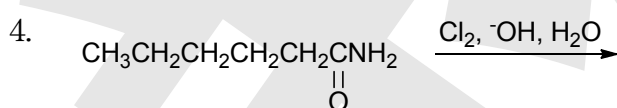
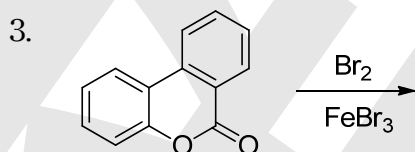
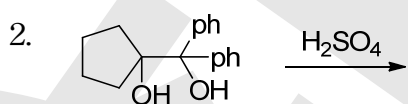
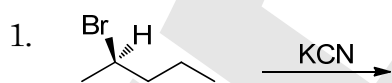


13. Which of these is comparatively insignificant factor affecting the magnitude of specific optical rotation?
 (A) concentration of the substance of interest
 (B) purity of the sample
 (C) temperature of the measurement
 (D) length of the sample tube
14. The correct IUPAC name for the following compound is:
 (A) 2-Bromo-4-methylenehexane
 (B) 2-(2-Bromopropyl)-1-butene
 (C) 4-Bromo-2-ethyl-1-pentene
 (D) 2-Bromo-4-ethyl-1-pentene

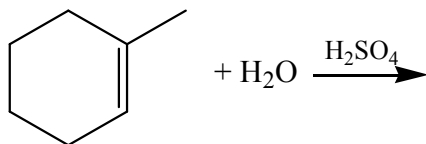


15. A compound with the molecular formula C_6H_9ClO gave the following 1H NMR spectrum: triplet, δ 3.7; triplet, δ 4.2; multiplet, δ 7.1. There was no evidence of an -OH band in the IR spectrum. The most likely structure for the compound is:
 (A) $C_6H_5OCH_2CH_2Cl$
 (B) $C_6H_5OCHClCH_3$
 (C) *p*- $ClC_6H_4OCH_2CH_3$
 (D) *o*- $ClC_6H_4OCH_2CH_3$
16. Select the structure of C_6H_{14} with a base peak at m/z 43.
 (A) $CH_3CH_2CH_2CH_2CH_2CH_3$
 (B) $(CH_3CH_2)_2CHCH_3$
 (C) $(CH_3)_2CCH_2CH_3$
 (D) $(CH_3)_2CHCH(CH_3)_2$
17. Which of these, though commonly used, is an incorrect name for $CH_3CHOHCH_3$?
 (A) Isopropyl alcohol
 (B) *sec*-Propyl alcohol
 (C) 2-Propanol
 (D) Isopropanol
18. When 3-methyl-2,3-pentanediol vapor is passed over hot alumina (Al_2O_3), the chief product to be expected is which of these?
 (A) 2-Ethyl-1,3-butadiene
 (B) 3-Methyl-1,3-pentadiene
 (C) 3-Methyl-1,2-pentadiene
 (D) 3-Methyl-2,3-pentadiene
19. Compute the index of hydrogen deficiency for the molecule $C_{10}H_8$
 (A) 7
 (B) 6
 (C) 5
 (D) 4
20. Which of the following statements is true when ethane, ethene and acetylene are compared with one another?
 (A) Acetylene is the weakest acid and has the longest C-H bond length
 (B) Acetylene is the strongest acid and has the shortest C-H bond length
 (C) Ethane is the strongest acid and has the longest C-H bond length
 (D) Ethene is the strongest acid and has the shortest C-H bond length

二、反應題與問答題(每題 4%，共 40%)



6. Draw a structural formula for the product of the acid-catalyzed of 1-methylcyclohexane.



7. Following are stereorepresentations of the three stereoisomers of 2,3-butanediol. Which are enantiomers?

