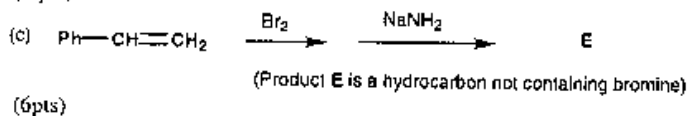
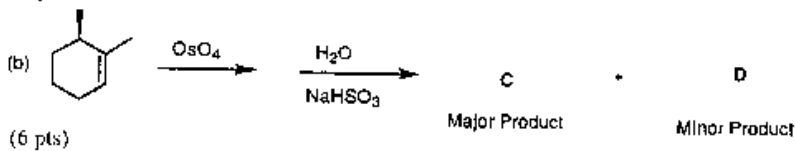
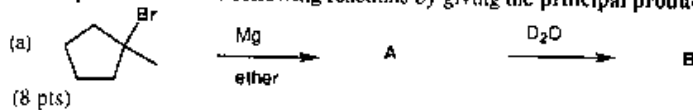


國立中央大學九十一學年度碩士班研究生入學試題卷

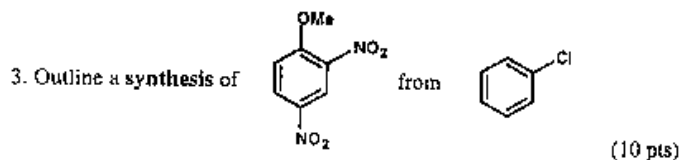
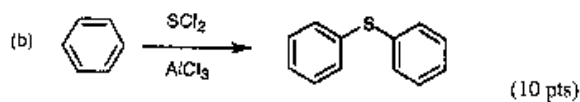
所別： 環境工程研究所 丙組 科目： 有機化學 共 / 頁 第 / 頁

1. Complete each of the following reactions by giving the principal product (A-E) formed in each case.



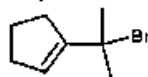
2. Using the curved-arrow formalism, suggest a mechanism for each of the following reactions.

(a) The addition of HBr twice to 2-butyne to give 2,2-dibromobutane. (10 pts)



4. One of the isomeric conjugated dienes having the formula C_6H_8 is not able to react with a dienophile in a Diels-Alder reaction. Draw the structure of this compound. (8 pts)

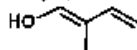
5. (a) Draw the structure of the carbocation formed upon ionization of the compound shown. (8 pts)
(b) A constitutional isomer of this compound gives the same carbocation; draw its structure. (8 pts)



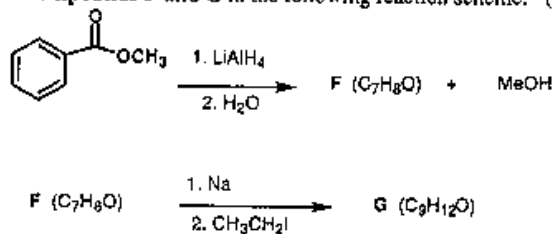
6. Write the correct structure for each of the following:

(a) The enolate ion derived from reaction of 1,3-cyclohexanedione with sodium methoxide. (8 pts)

(b) The carbonyl form of the following enol. (8 pts)



7. Provide structures for compounds F and G in the following reaction scheme: (10 pts)



參考用