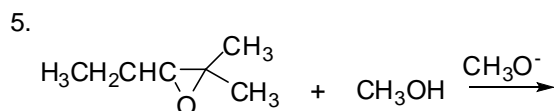
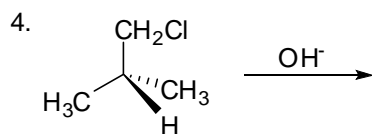
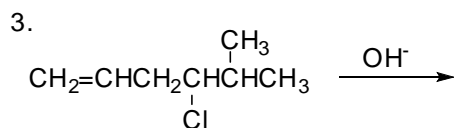
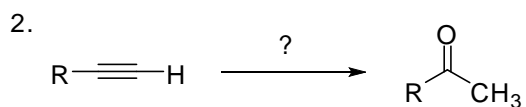
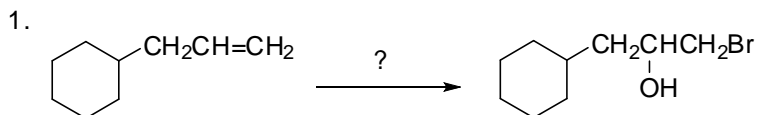
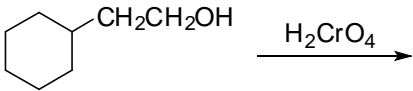
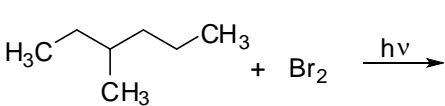
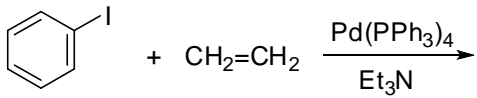
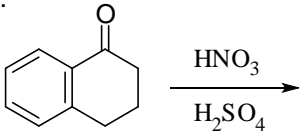
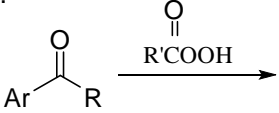
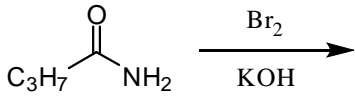
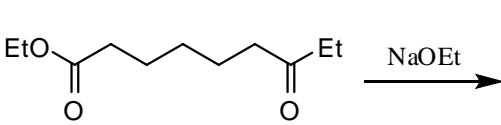
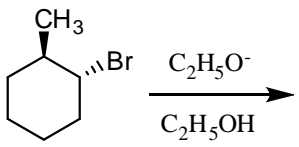
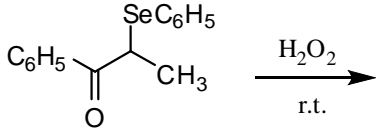
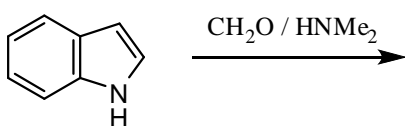


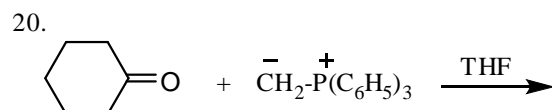
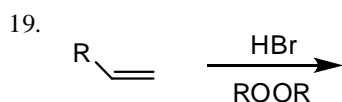
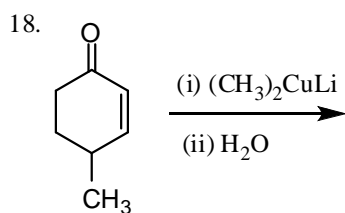
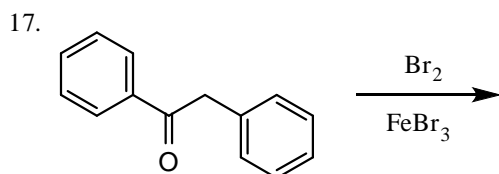
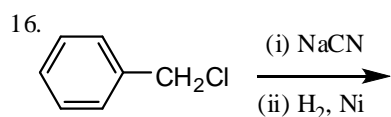
國立嘉義大學九十七學年度應用化學系碩士班招生考試(乙組)試題

科目：基礎有機化學 :100% (I 每題 4 分；II-V 每題各 5 分)

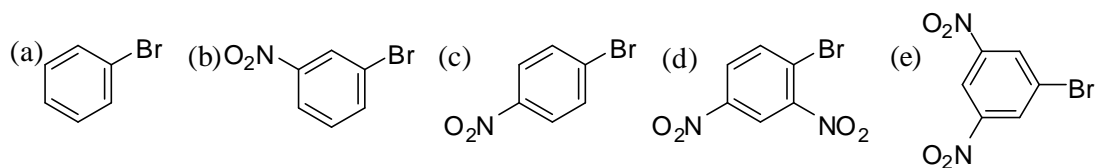
I. Please complete the following reactions:



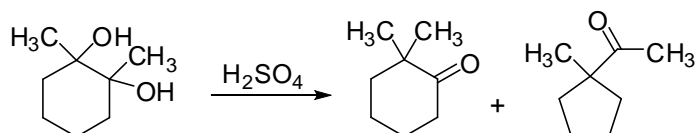
6.  C1CCCCC1CCO >> [H2CrO4]
7.  CC(C)CC(C)C + Br2 >> [hv]
8.  c1ccccc1I + CH2=CH2 >> [Pd(PPh3)4, Et3N]
9.  O=C1C=CC2=CC=CC=C12 >> [HNO3, H2SO4]
10.  Ar-C(=O)-R >> [R-COOH]
11.  CC(C)C(=O)N >> [Br2, KOH]
12.  CCOC(=O)CCCCC(=O)CC >> [NaOEt]
13.  C[C@H]1CCCC[C@@H]1Br >> [C2H5O-, C2H5OH]
14.  CC(C)(C(=O)C1=CC=CC=C1)C2=CC=CC=C2 >> [H2O2, r.t.]
15.  C1=CN=C2C=CC=CC12 >> [CH2O, HNMe2]



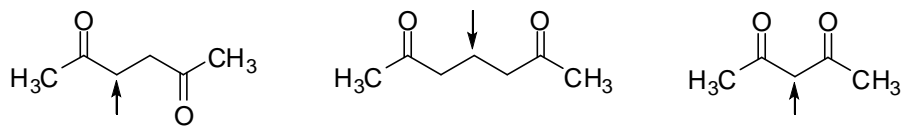
II. Which compound reacts most rapidly with  $\text{CH}_3\text{ONa}$ ? Explain the result.



III. Write a reasonable and detailed mechanism for the following transformation.



IV. Rank the following compounds in order of decreasing the acidity of the indicated hydrogen.



- V. *cis*-4-Bromocyclohexanol and *trans*-4-bromocyclohexanol from the same elimination product but a different substitution product when react with OH<sup>-</sup>. Explain, by showing the mechanisms, why different substitution products are obtained.

