

大葉大學 九十二 學年度 研究所碩士班 招生考試試題紙

系 所 別	組 別	考 試 科 目 (中 文 名 稱)	考 試 日 期	節 次	備 註
生物產業科技學系	甲	有機化學	4月13日	第二節 (10:30 ~ 12:00)	共 乙 頁

註：考生可否攜帶計算機或其他資料作答，請在備註欄註明（如未註明，一律不准攜帶）

1. Draw structure formula for the following compounds: (20%)

(A) 4-ethyl-2,2-dimethylhexane

(B) cis-3,4-dimethyl-2-pentene

(C) benzoic acid

(D) propyl acetate

(E) 2-cyclohexenone

(F) 4-chloro-2-nitrotoluene

(G) tert-butylamine

(H) phenylacetic acid

2. Draw the structure formula of the Diels-Alder reaction product between 1,3-butadiene ($C=C-C=C$) and ethylene ($C=C$). (10%)

3. Draw the structure formula of N-nitrosopiperidine a reaction product of piperidine ($C_5H_{10}NH$) and HNO_2 . (10%)

4. Draw the structure formula of cumene a reaction product of mixing benzene, 2-chloropropane [$CH_3C(Cl)HCH_3$], and $AlCl_3$. (10%)

5. Draw the structure formula of the Aldol reaction product of benzaldehyde (C_6H_5CHO) and acetone [$CH_3C(O)CH_3$] followed by dehydration of the aldol intermediate. (10%)

6. Draw the structure formula of the reduction product of octanamide [$CH_3(CH_2)_6C(O)NH_2$] using $LiAlH_4$ in water. (10%)

7. Draw the the structure formula of the reaction product (a tertiary alcohol) of methyl acetate [$CH_3C(O)OCH_3$] and $2CH_3MgX$. (10%)

8. Please give any reaction you know to prepare ethyl acetate [$CH_3C(O)OCH_2CH_3$]. (10%)

9. Draw the structure formula of the hydroperoxide formed from the oxidation of diethyl ether ($CH_3CH_2OCH_2CH_3$). (10%)