

考生姓名： \_\_\_\_\_

准考證號碼： \_\_\_\_\_

※注意事項

請先確實填寫姓名及准考證號碼。

## 嘉南藥理科技大學九十二學年度碩士班考試入學招生

有機化學試題（生物科技系碩士班一般生甲組） 本試題共 1 張 2 面

1. 畫出結構式(15%)：

<i>(R)</i> -3,4-dimethyl-2-pentanone	Most stable conformation of <i>trans</i> -2-ethylcyclohexanol	hydroquinone	Salicylic acid	aniline
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2. 完成下列反應(50%)：

$\delta$ -lactone +  $\text{CH}_3\text{MgBr}$ , excess  $\rightarrow$  (ㄅ) ; cyclohexene +  $\text{Br}_2/\text{CCl}_4 \rightarrow$  (ㄆ) ; sodium acetylide + 1-bromo-3-methylbutane  $\rightarrow$  (ㄇ) ;  
benzene +  $\text{HNO}_3/\text{H}_2\text{SO}_4 \rightarrow$  (ㄏ) ; (*R*)-2-butanol +  $\text{MsCl}/\text{py}$ , then  $\text{CH}_3\text{ONa} \rightarrow$  (ㄏ) ; 1-methylcyclohexene +  $\text{O}_3$ , then  $\text{Zn}/\text{H}^+ \rightarrow$  (ㄏ) ;  
phenyl benzoate +  $\text{CH}_3\text{Cl}/\text{AlCl}_3 \rightarrow$  (ㄏ) ; benzyl chloride +  $\text{KN}_3$ , then  $\text{LiAlH}_4$ , then  $\text{H}_2\text{O} \rightarrow$  (ㄏ) ;  
bromoethane + *t*-BuOK/*t*-BuOH  $\rightarrow$  (ㄏ) ; 2,3-dimethoxy-1,3-butadiene + methyl acrylate  $\rightarrow$  (ㄏ)

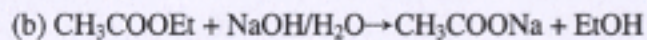
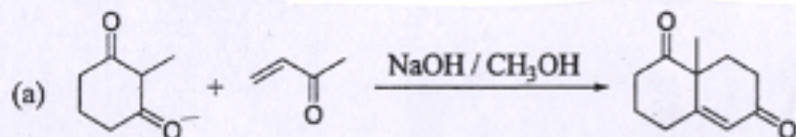
(ㄅ)	(ㄆ)	(ㄇ)	(ㄏ)	(ㄏ)
(ㄏ)	(ㄏ)	(ㄏ)	(ㄏ)	(ㄏ)

3. 比較 pKa 大小(5%)：phenol、*p*-methoxyphenol、*p*-nitrophenol、*p*-chlorophenol

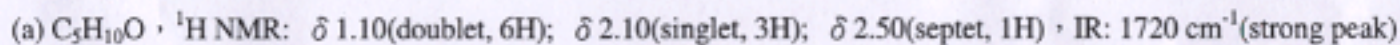


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4. 寫出反應機構(20%)



5. 說明構造式如何決定(10%)



(b) Match the mass spectra to the following compounds: 2-pentanol, 2-methyl-2-butanol.

