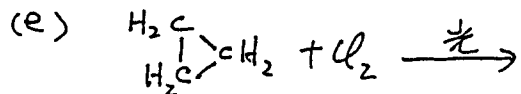
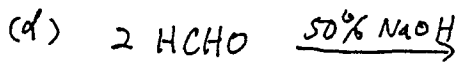
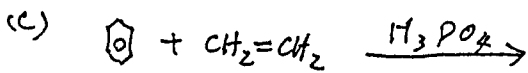
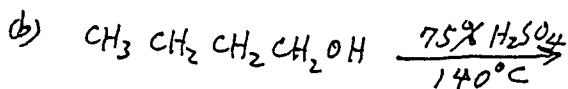
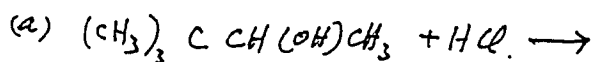


20% 一. 解釋名詞並請舉例說明:

1. Transition state
2. sp^2 Hybridization
3. Chirality
4. Alkylation
5. 1,2-Elimination
6. Carbanion
7. Conjugation and Resonance of dienes
8. Aldol condensation
9. cyclization
10. Aromaticity

50% 二. 綜合題:

15% 1. 完成下列各反應式並寫出主要產物之構造式

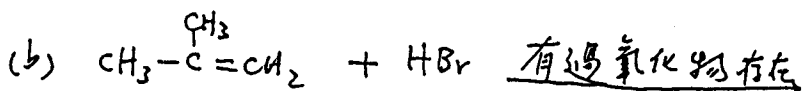
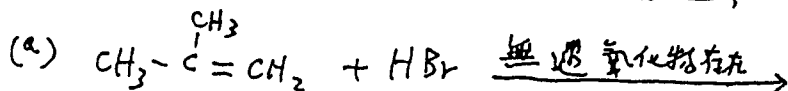


10% 2. 試說明溶劑對 SN_2 (nucleophilic substitution) 反應之影響, 並解釋下面之實驗事實。

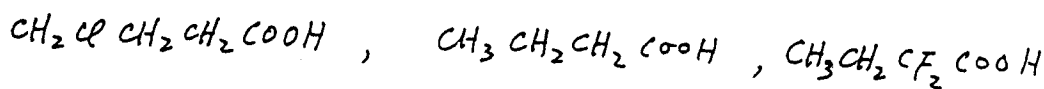


$n =$	0	1	2	3	在溶液中
相對速率常數 $K =$	1	0.6	0.002	0.0002	10^{-16}

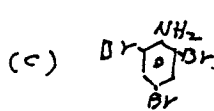
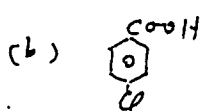
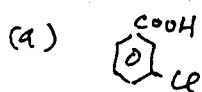
10% 3. 試寫出下列兩反應式之產物構造, 並分別寫出其反應機構。



9% 4. 為何有機酸: $R\text{COOH}$ 酸性比其他有機物大, 請說明之。依酸性大小排列下列各化合物, 並寫出你排出此大小順序的道理。



18% 5. 寫出以苯 (benzene) 為原料及其他有關之化學品: 合成下列化合物



18% 6. 寫出下列各反應式之反應機構

