

中國文化大學 103 學年度碩士班考試入學招生考試

系所組：化學系應用化學碩士班

日期節次：103 年 3 月 15 日第 1 節 9:00~10:30

科目：有機化學與分析化學

一、分析化學(50 分)

1. A compound had a molar absorptivity of  $3.03 \times 10^3 \text{ Lcm}^{-1}$ . What concentration of the compound would be required to produce a solution that has a transmittance of 9.53 % in a 2.5 cm cell? (10 分)
2. 說明為何 UV 光譜的訊號是呈寬帶(band)? (10 分)
3. 請說明  $\text{O}_2$  的何種性質會影響螢光特性? (10 分)
4. 請比較火焰式及非火焰式原子吸收光譜儀的優缺點。(10 分)
5. What is reversed-phase HPLC separation? (10 分)

二、Define the following terms : 5 points each (50分)

- (1) Organic Chemistry
- (2) Lewis acid and Lewis base
- (3) Nucleophilic 1,2-Shifts
- (4) Covalent bond and Polar covalent bond
- (5) Markovnikov's rule
- (6) Aromatic Compounds
- (7)  $\text{E}_2$
- (8)  $\text{S}_{\text{N}}2$
- (9) Conformational isomers
- (10) Zaitsev's Rules

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