

科目：無機化學 適用：應化所

編號：443

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

本 試 題
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第 2 頁

五、 What are compounds X and Y? (clearly show the stereochemistry if necessary)

【X 及 Y 各 5 分，共 10 分】



六、 Explain why CO and CN⁻ are very strong-field ligands.

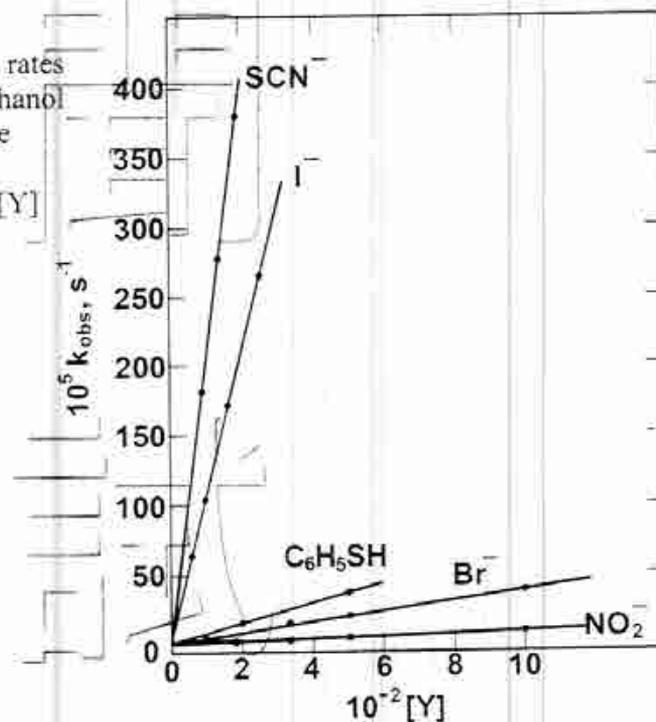
【10 分】

七、 Figure on the right shows reaction rates of *trans*-[PtCl₂Py₂] at 30°C in methanol as function of [Y], Y represents the incoming nucleophile.

This plot shows that $k_{\text{obs}} = k_1 + k_2 [\text{Y}]$

What do k_1 and k_2 represent?

【 k_1 及 k_2 各 5 分，共 10 分】



八、 選擇題 【每小題各 2 分，共 10 分】

- (a) () How many subunits are there in a hemoglobin? (1) 1 (2) 2 (3) 3 (4) 4.
- (b) () Which of the following is the free-energy source in a lot of biological systems? (1) APP (2) ALP (3) ADP (4) ATP.
- (c) () In many biological systems, NADH is often used as (1) oxidizing reagent (2) reducing reagent (3) chelating reagent (4) bleaching reagent.
- (d) () Cytochrome P450s are named so because their CO adducts have strong absorptions at (1) 440 (2) 450 (3) 460 (4) 470 nm.
- (e) () Which of the following is a non-heme iron protein? (1) hemoglobin (2) myoglobin (3) rubredoxin (4) cytochrome c.