



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。

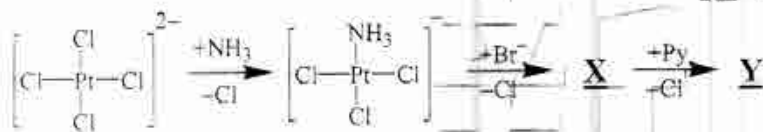
本 試 題

共 2 頁

第 2 頁

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

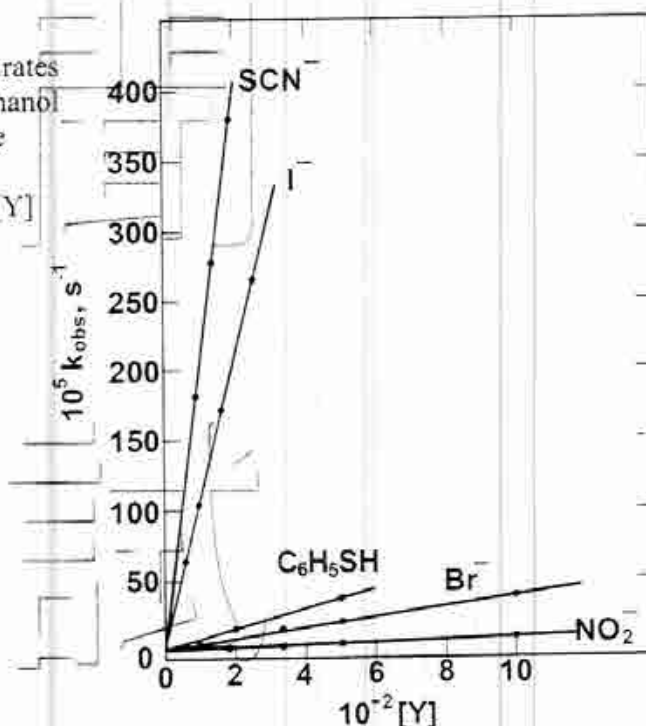
【X 及 Y 各 5 分，共 10 分】

六、 Explain why CO and CN<sup>-</sup> are very strong-field ligands.

【10 分】

七、 Figure on the right shows reaction rates of *trans*-[PtCl<sub>2</sub>Py<sub>2</sub>] 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】

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