生 化 有 機 合 成 研 究 室

實驗室編號：I401

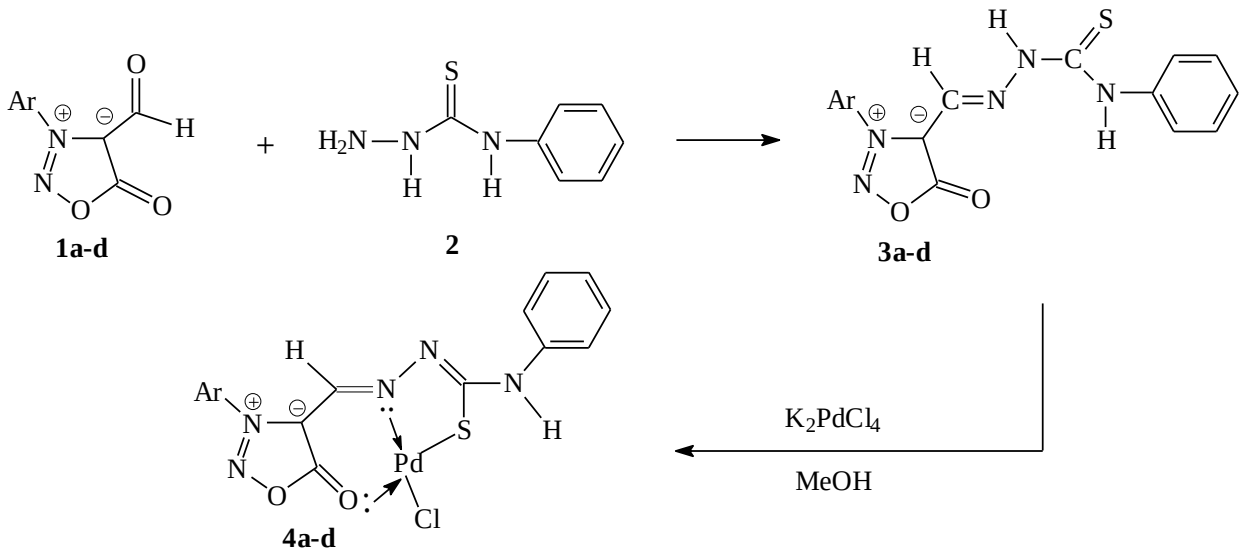
負責教師：施美秀教授

研究發展方向

本研究室著力於新型有機配位體及過渡金屬錯合物的合成研究，利用FTIR、NMR、MS、元素分析及X-ray單晶繞射分析，研究其結構、配位情形以及相關生物藥理活性，俾有助於相關生化及醫藥上的發展。此外由於金屬催化劑的蓬勃發展，本研究室亦將所合成的過渡金屬錯合物應用於催化赫克(Heck)反應及鈴木宮浦(Suzuki-Miyaura)反應。

研 究 成 果

- Syntheses of Palladium complexes from thiosemicarbazone ligands.
- Potent anti-tumor activities against human HepG2 and Hela cells.



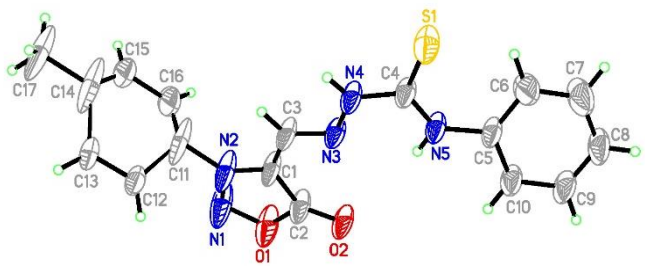


Figure 1. ORTEP drawing of thiosemicarbazon ligand

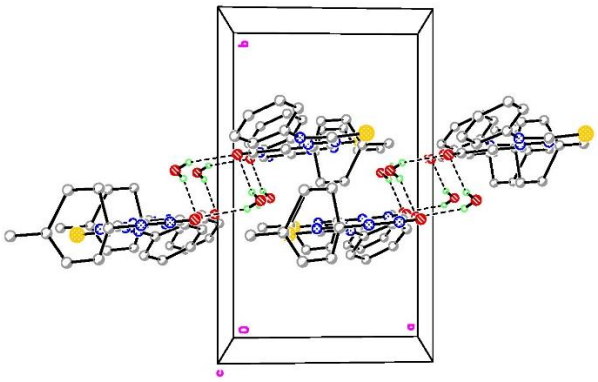


Figure 2. Packing diagram of thiosemicarbazon ligand

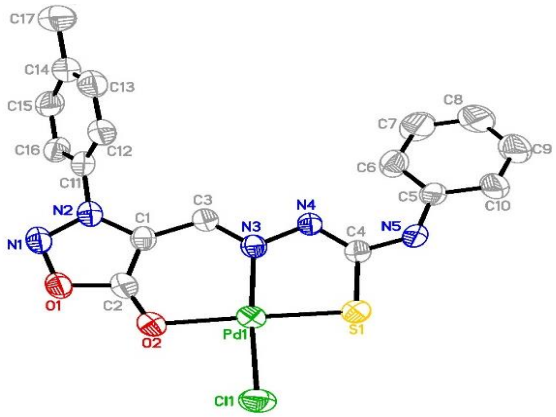


Figure 3. ORTEP drawing of Palladium complex

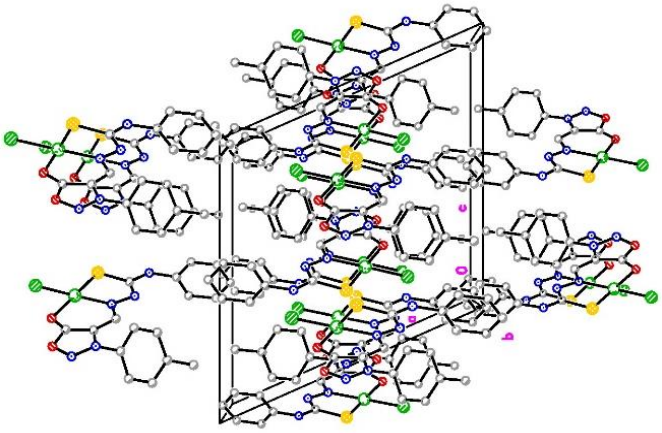


Figure 4. Packing diagram of Palladium complex

- **Design, syntheses and characterization of novel ligands.**
- **Design, syntheses and characterization of transition metal complexes.**

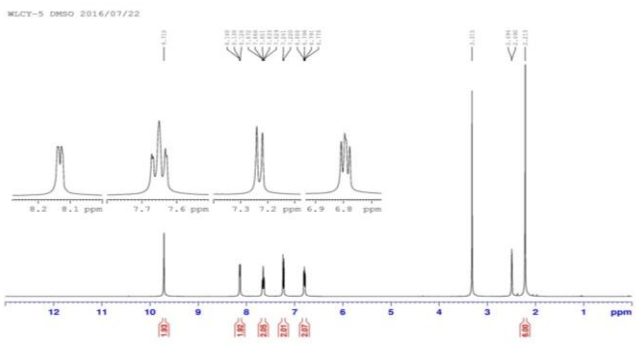


Figure 5. 希夫鹼配位體之 ^{1}H-NMR 光譜

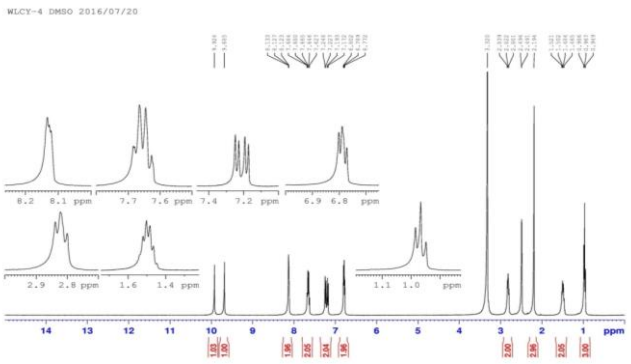


Figure 6. 希夫鹼配位體之 ^{1}H-NMR 光譜

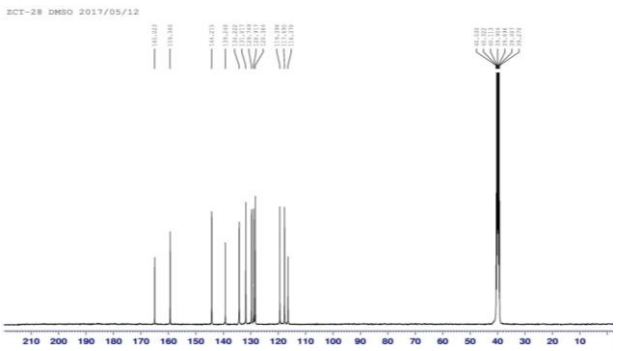


Figure 7. 希夫鹼配位體之 ^{13}C-NMR 光譜

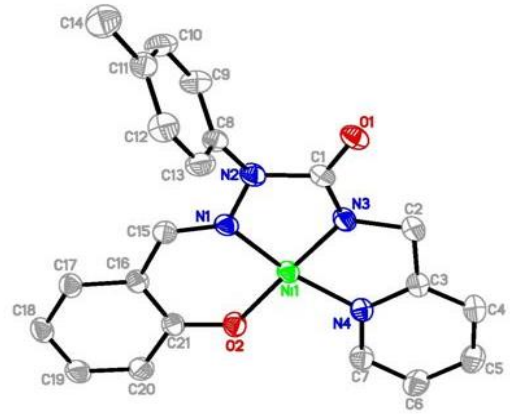


Figure 9. 鎳金屬錯合物之單晶繞射圖

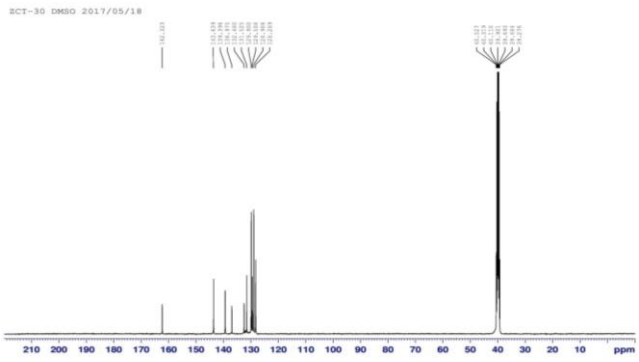


Figure 8. 希夫鹼配位體之 ^{13}C-NMR 光譜

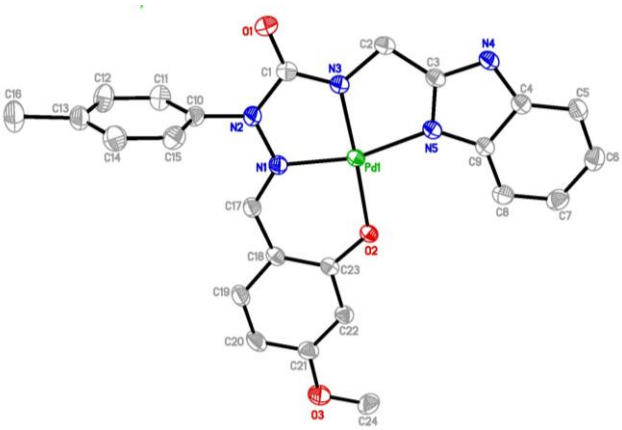


Figure 10. 鈀金屬錯合物之單晶繞射圖

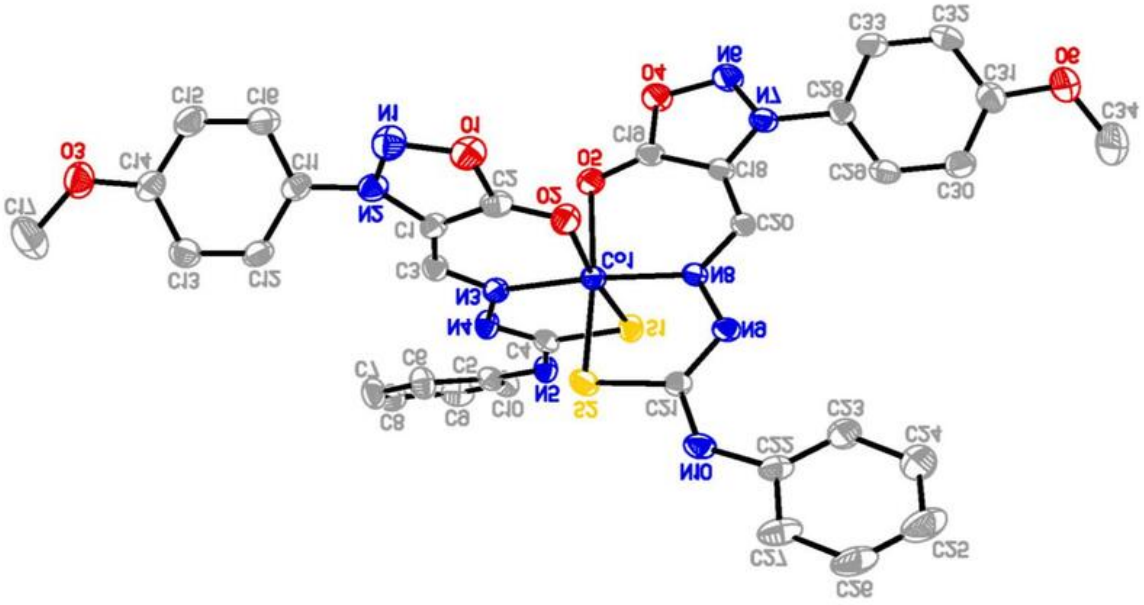


Figure 11. 鈷金屬錯合物之單晶繞射圖

實驗室成員

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葉國翔 李博文

實驗室設備

Figure 12. 可見光紫外光吸收光譜儀

Figure 13. 傅立葉紅外線光譜儀

Figure 14. 多功能螢光冷光吸收光譜分析系統

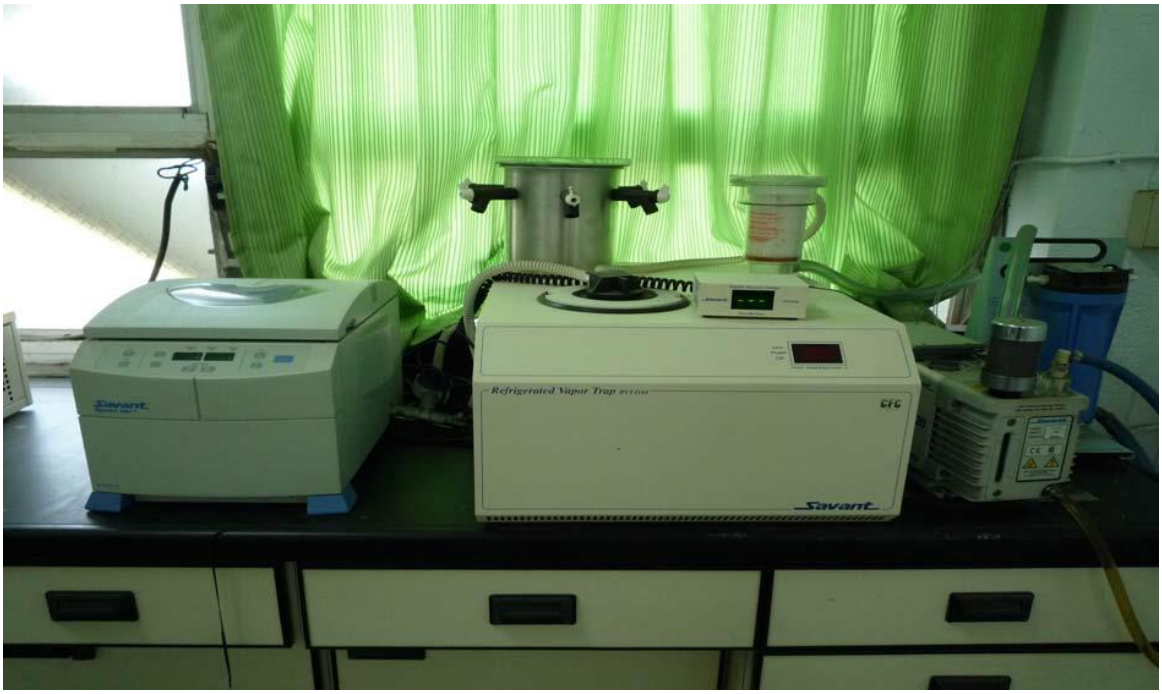

Figure 15. 真空離心濃縮及冷凍乾燥器

Figure 16. 真空減壓旋轉濃縮儀

Figure 17. 超音波細胞粉碎均質機(Vortex)