

# Two-photon absorption properties and $^1\text{O}_2$ generation ability of Ir complexes: unexpected large cross section of [Ir(CO) $_2$ Cl(4-(*para*-di-*n*-butylaminostyryl)pyridine)]

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## SUPPORTING INFORMATION

### NMR Spectra of Complex 1

In Figure S1-S2 is reported the  $^1\text{H}$ -NMR spectrum.

In Figure S3 is reported the  $^{13}\text{C}$ -NMR APT spectrum.

In Figure S4 is reported the HSQC bidimensional spectrum.

### NMR Spectra of Complex 3

In Figure S5 is reported the aromatic area of  $^1\text{H}$ -NMR spectrum.

In Figure S6 is reported the  $^{13}\text{C}$ -NMR APT spectrum.

In Figure S7 is reported the aromatic area of COSY bidimensional spectrum.

In Figure S8 is reported the emission spectrum of Complex 1 at 77 K

Figure S1.  $^1\text{H-NMR}$  spectrum in  $\text{CD}_2\text{Cl}_2$

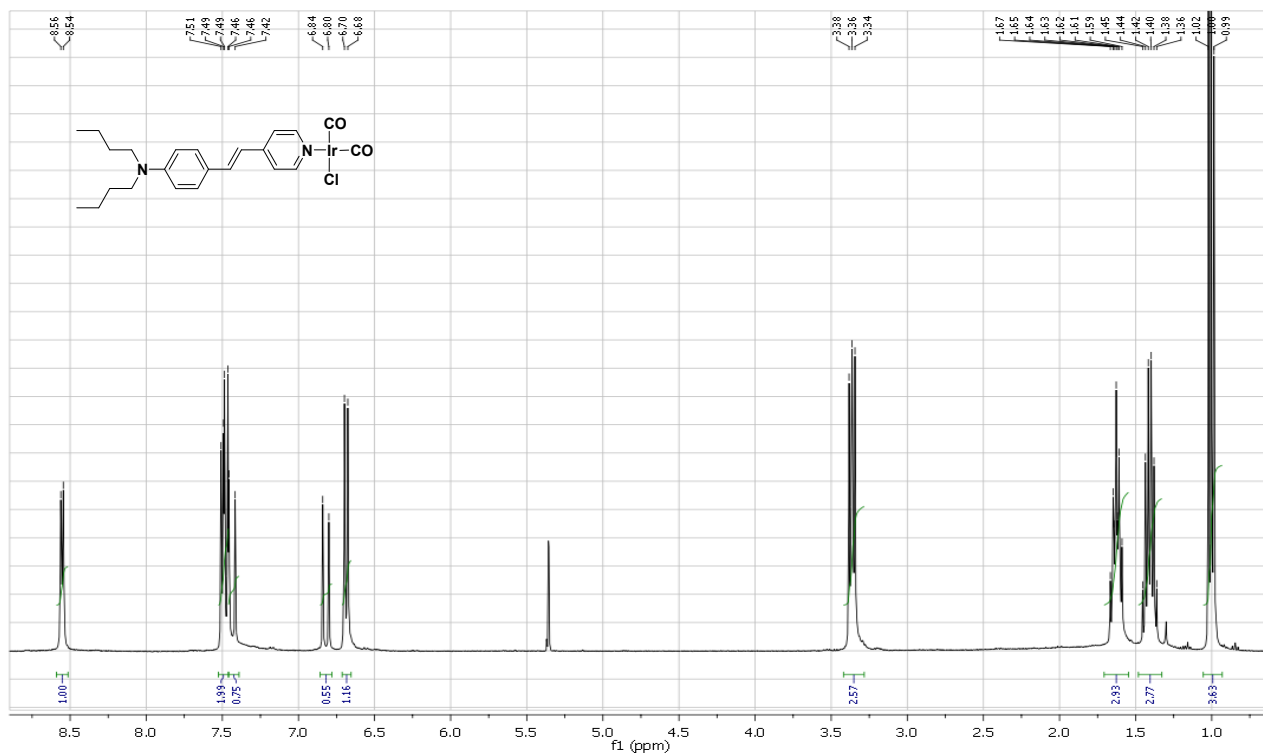


Figure S2.  $^1\text{H-NMR}$  expansion of aromatic area.

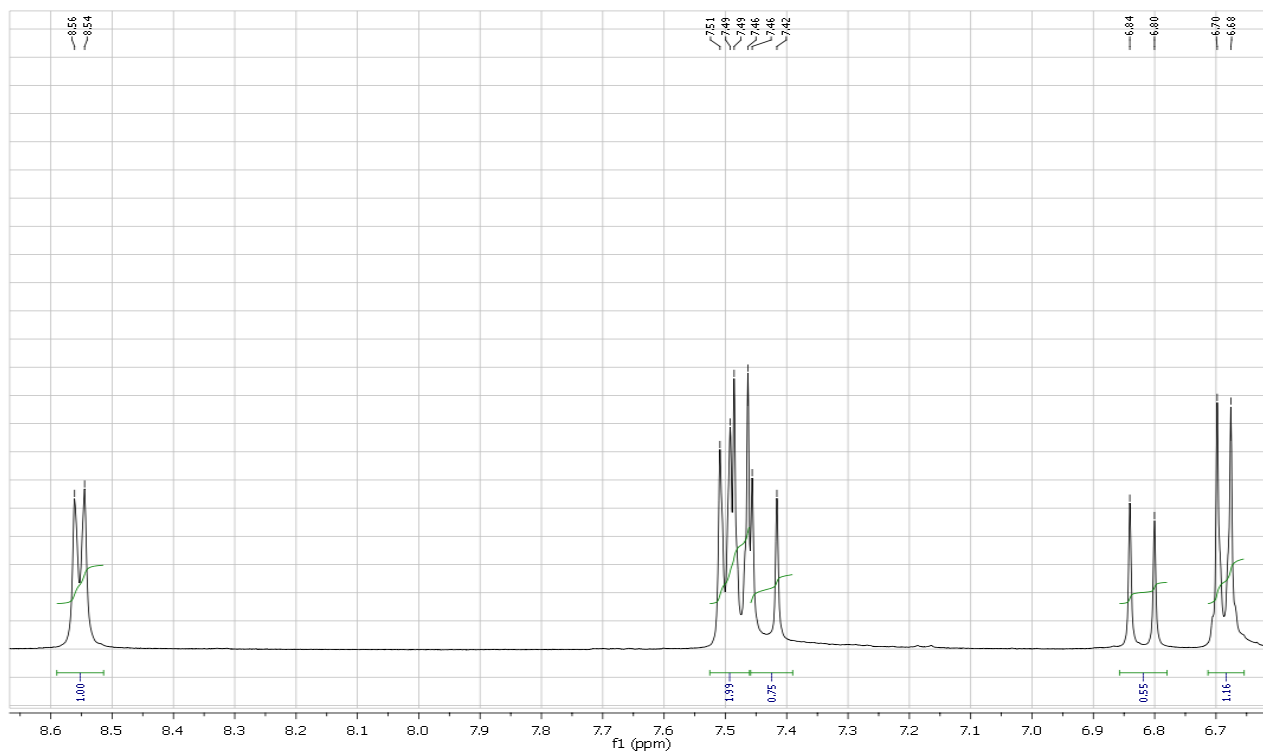


Figure S3.  $^{13}\text{C}$  NMR APT spectrum in  $\text{CD}_2\text{Cl}_2$

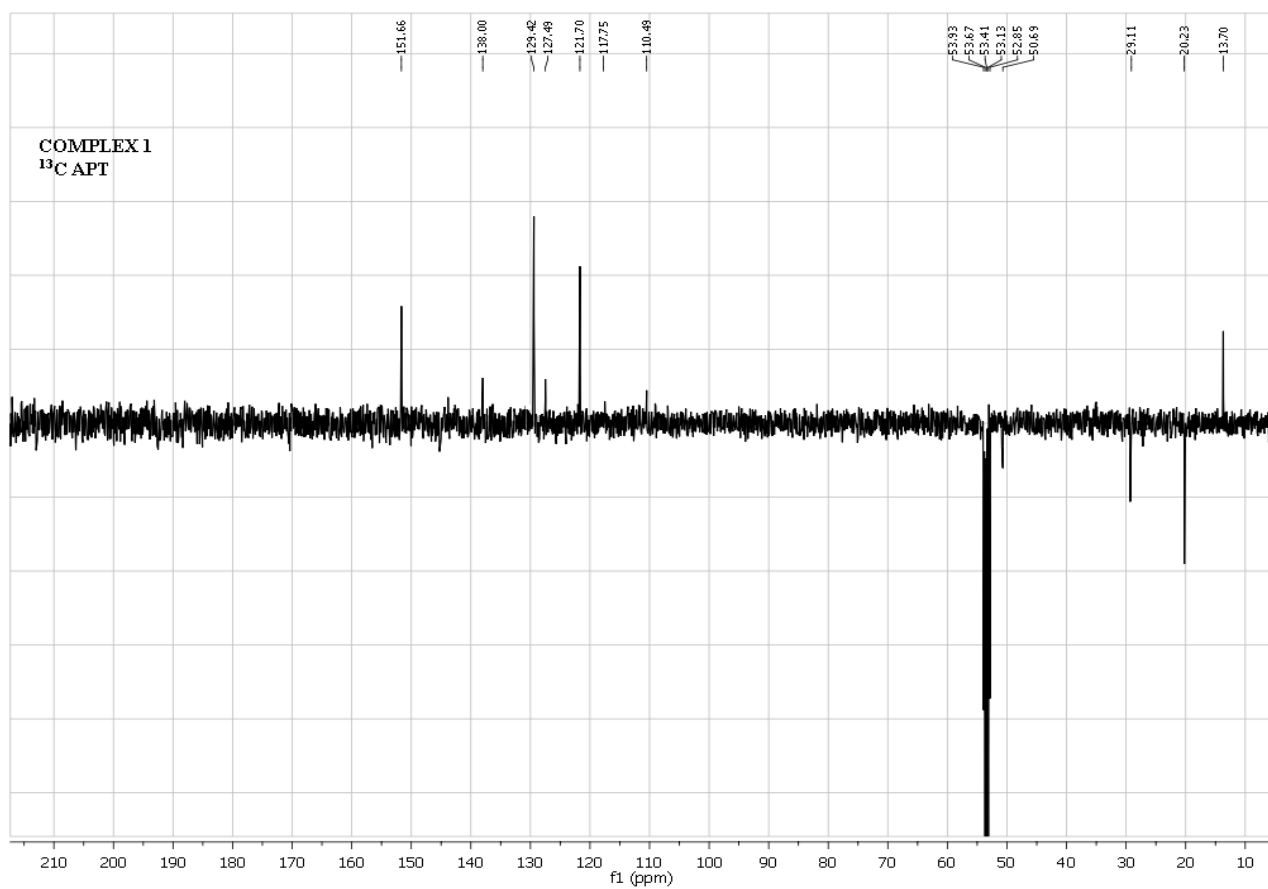


Figure S4. HSQC bidimensional spectrum

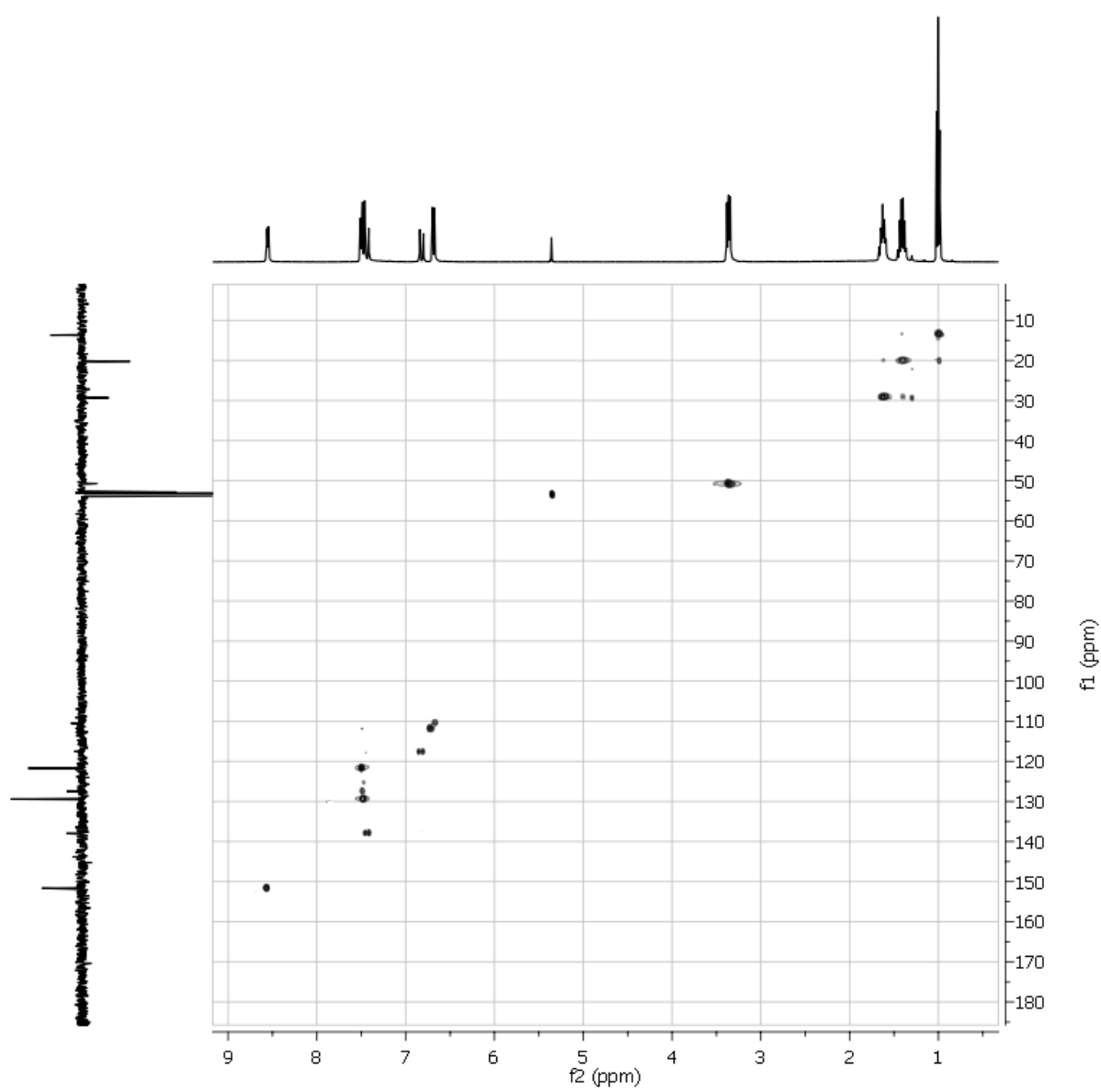


Figure S5.  $^1\text{H}$ -NMR in  $\text{CD}_2\text{Cl}_2$ , expansion of aromatic area.

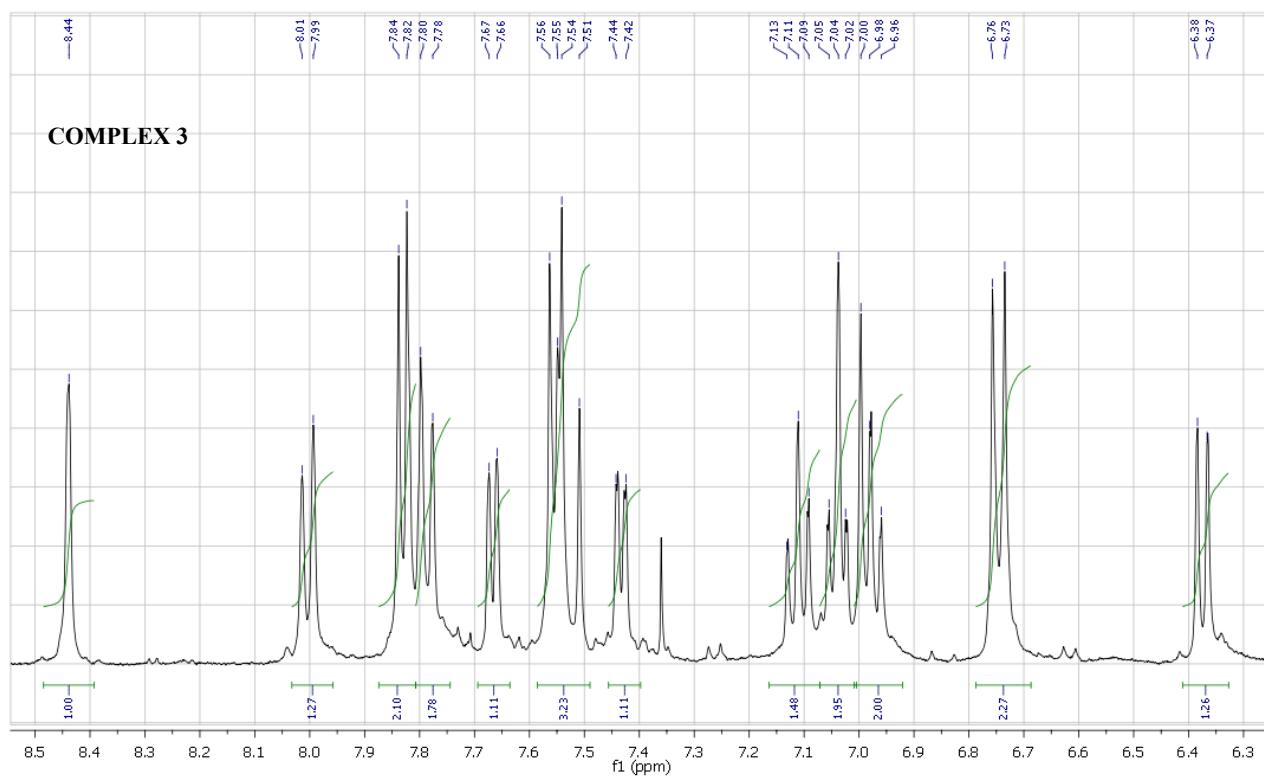
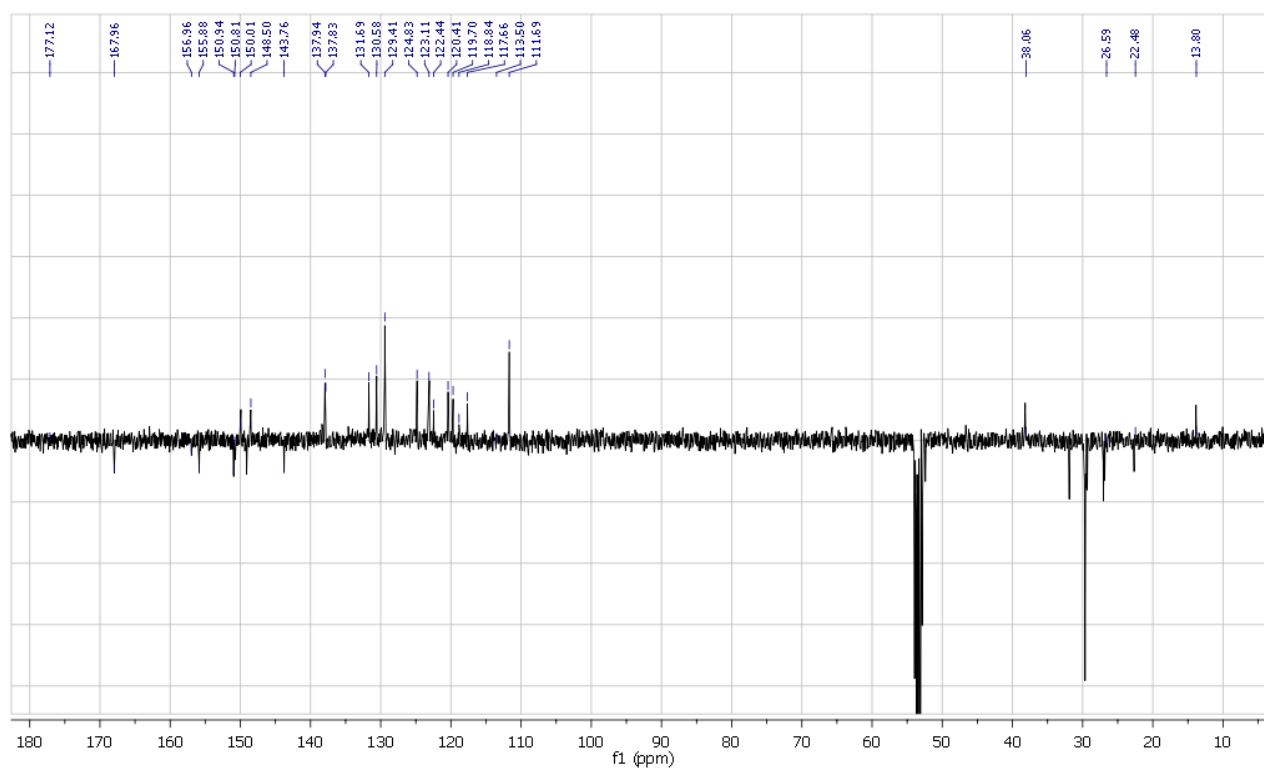
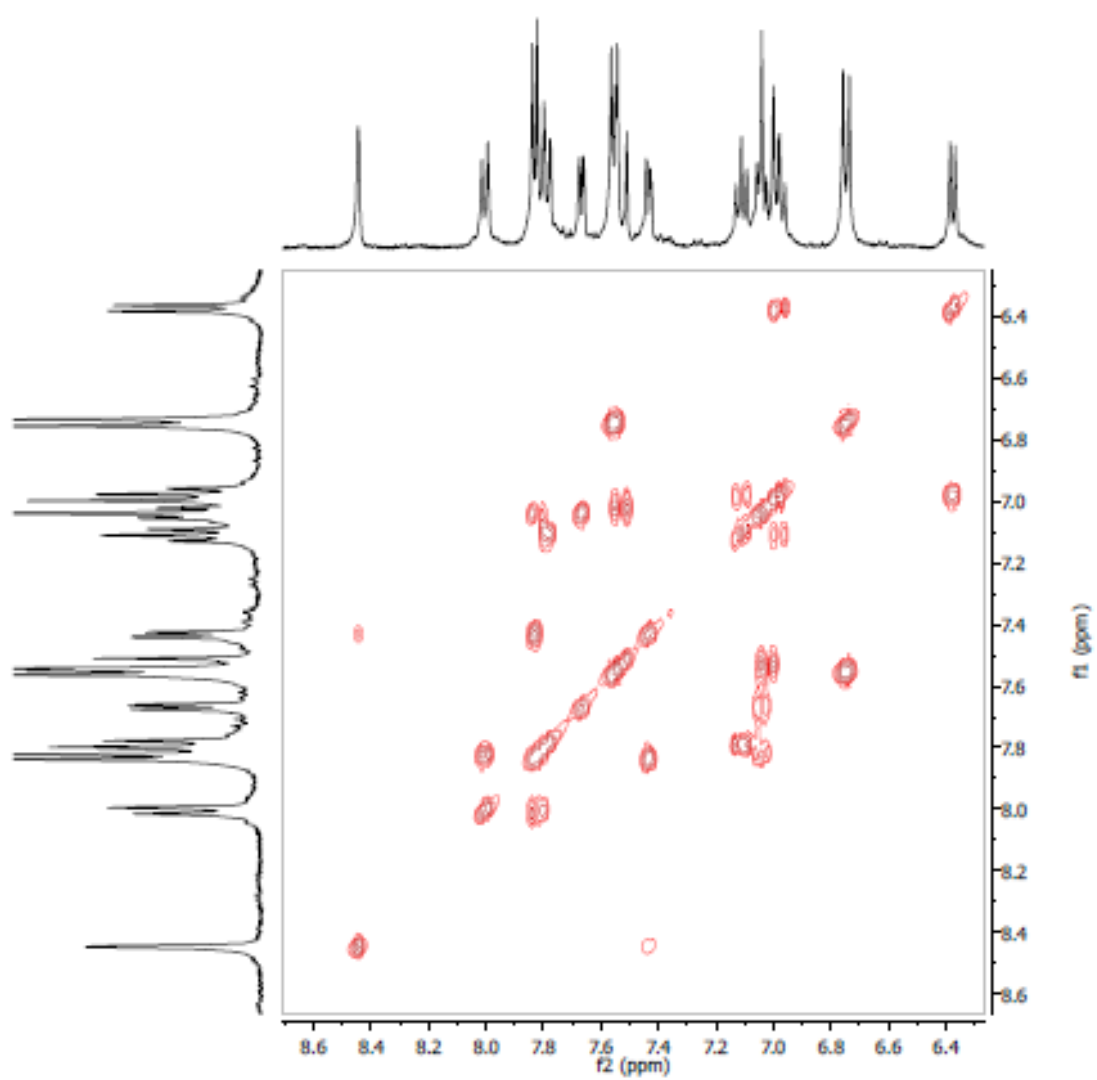


Figure S6.  $^{13}\text{C}$  NMR APT spectrum in  $\text{CD}_2\text{Cl}_2$



**Figure S7.** COSY bidimensional spectrum in CD<sub>2</sub>Cl<sub>2</sub>, expansion of aromatic area



**Figure S8.** Emission spectrum of complex 1 at 77 K

