Facile and efficient chloro-bridged Iridium(III) dimers as OLED materials: Opening up new possibilities

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SUPPORTING INFORMATION

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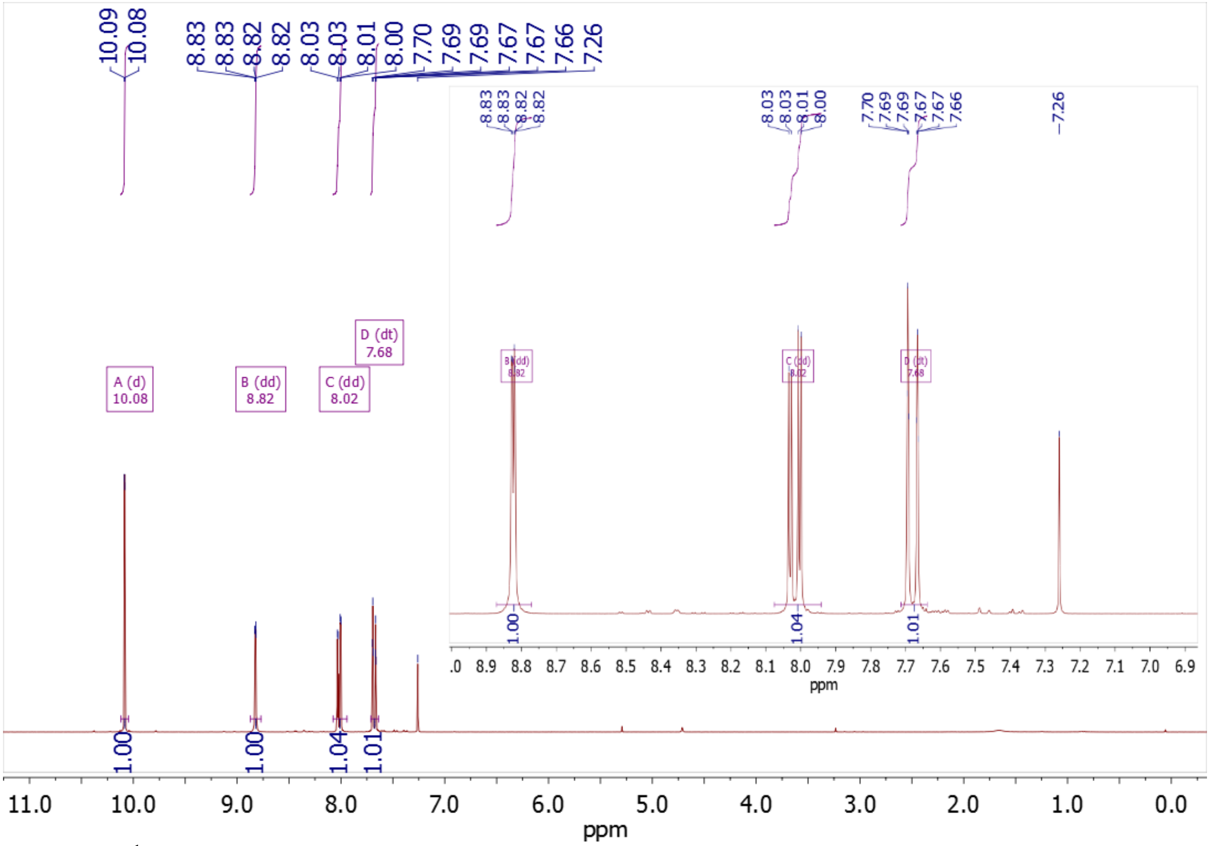


Figure S1. ^{1}H NMR of 2-bromo-5-formylpyridine.

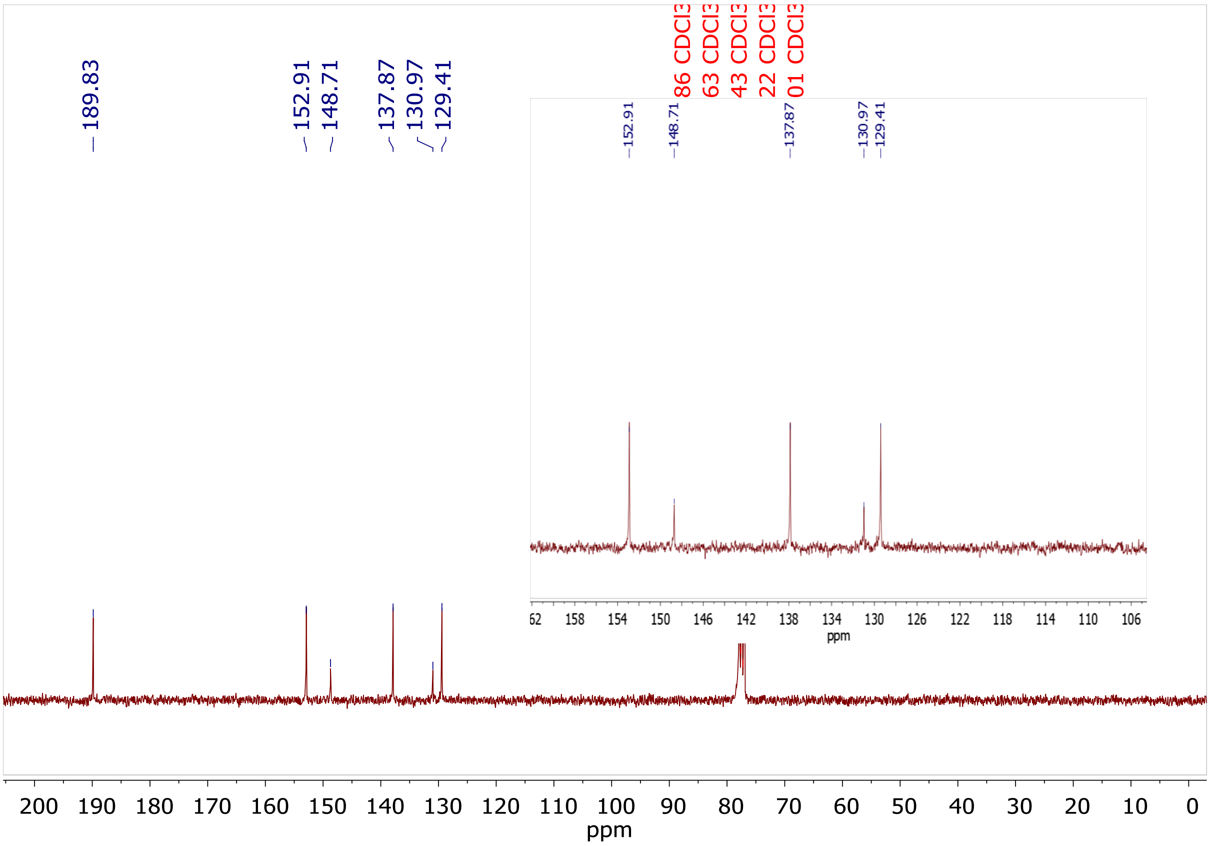


Figure S2. ^{13}C NMR of 2-bromo-5-formylpyridine.

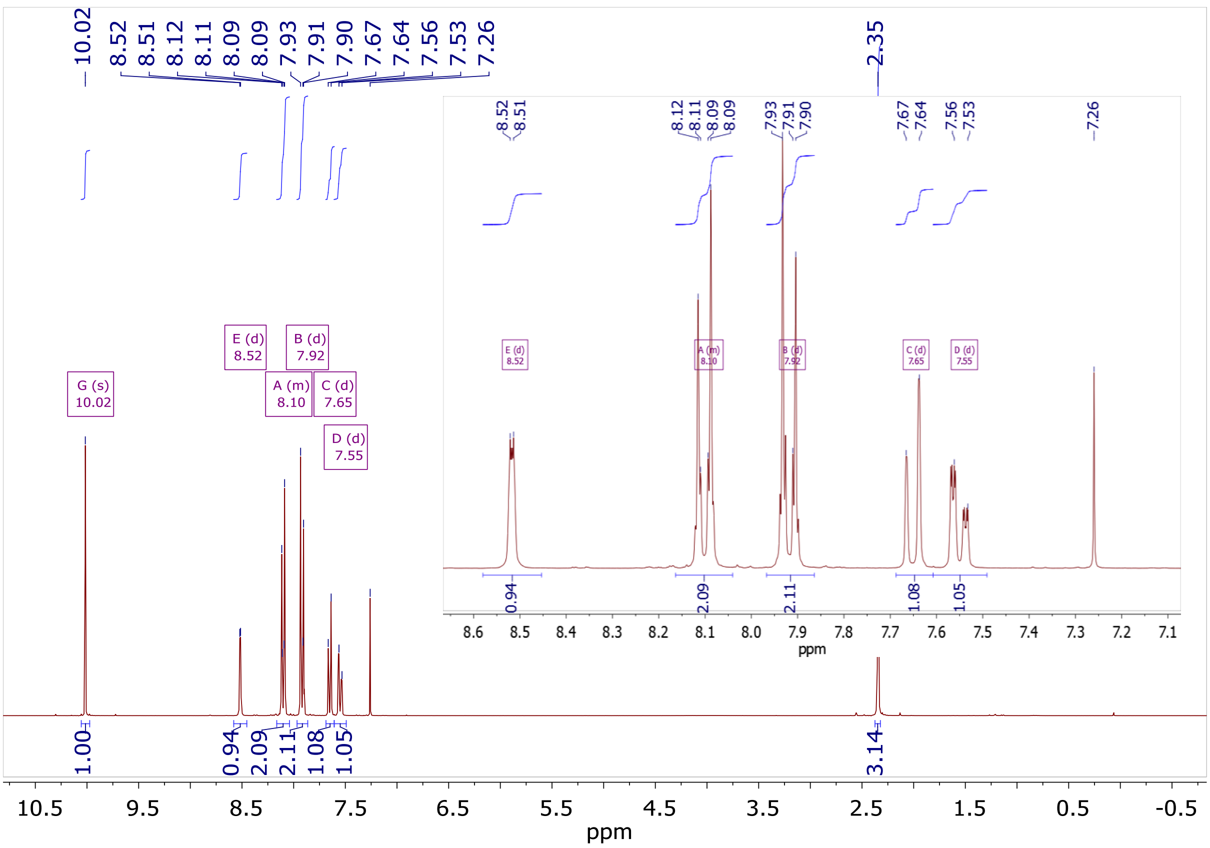


Figure S3. ^{1}H NMR of **4-CHO-mppy**.

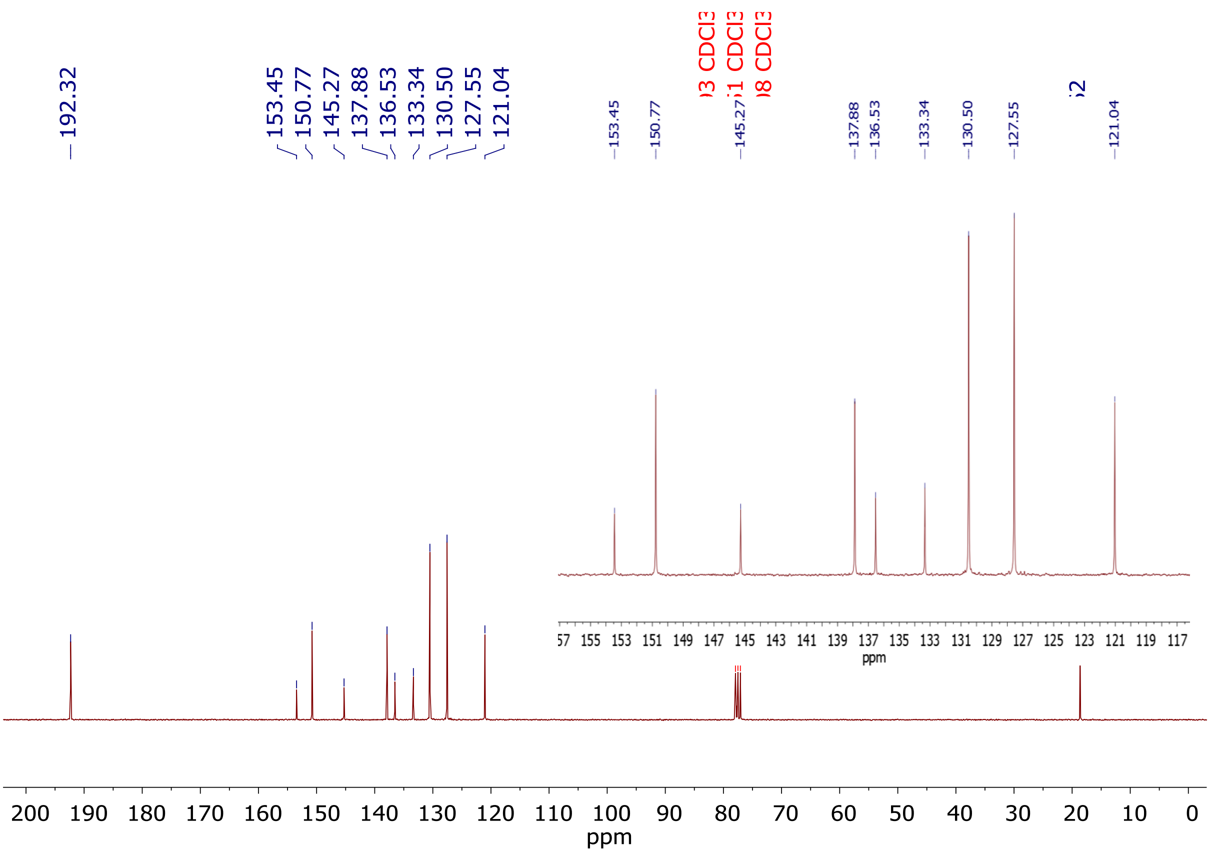
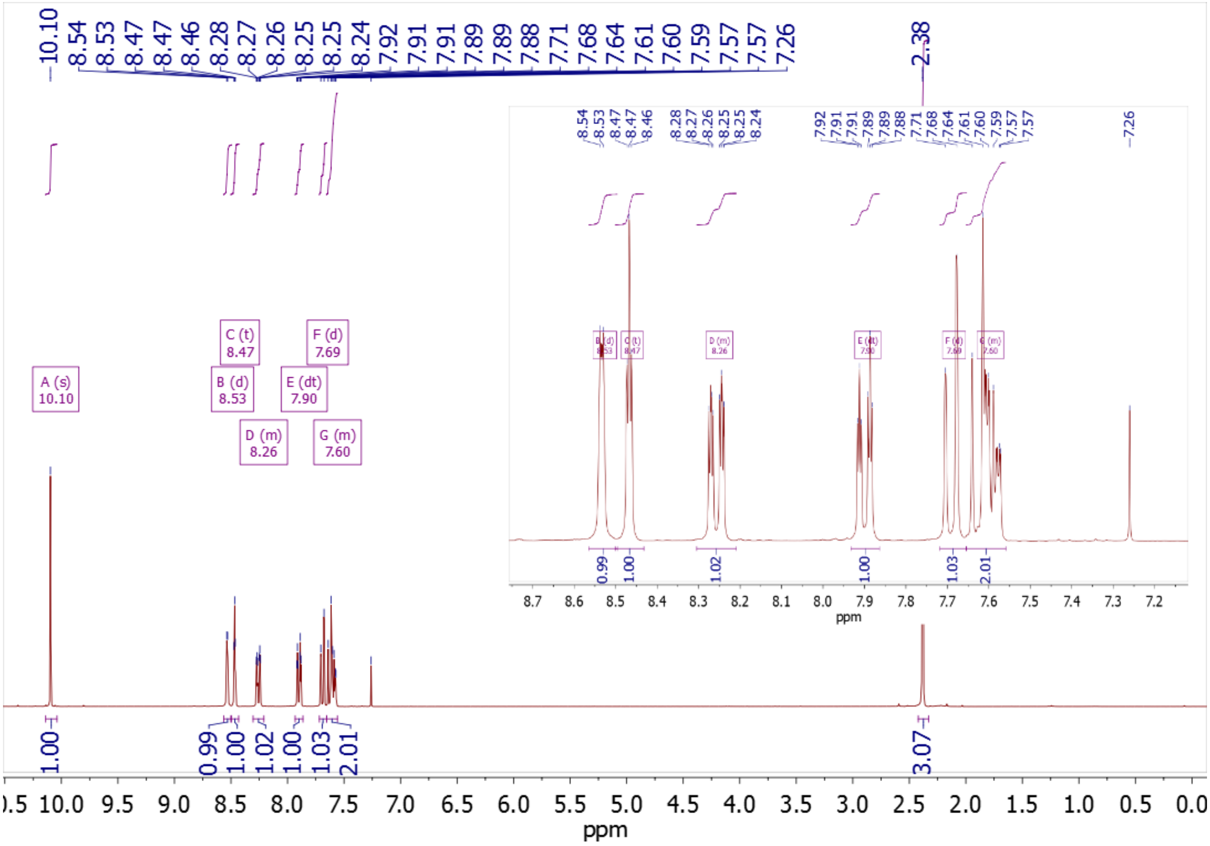


Figure S4. ^{13}C NMR of **4-CHO-mppy**.



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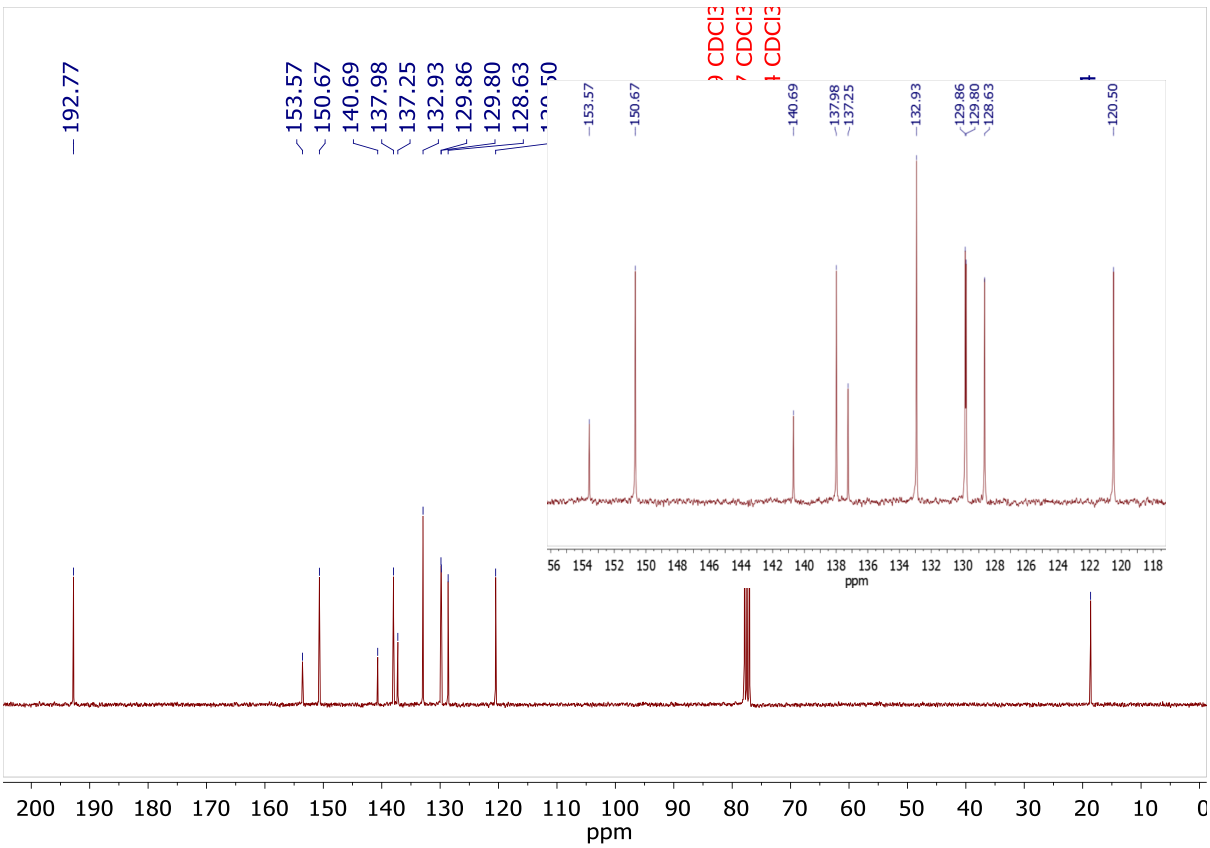


Figure S6. ^{13}C NMR of **3-CHO-mppy**.

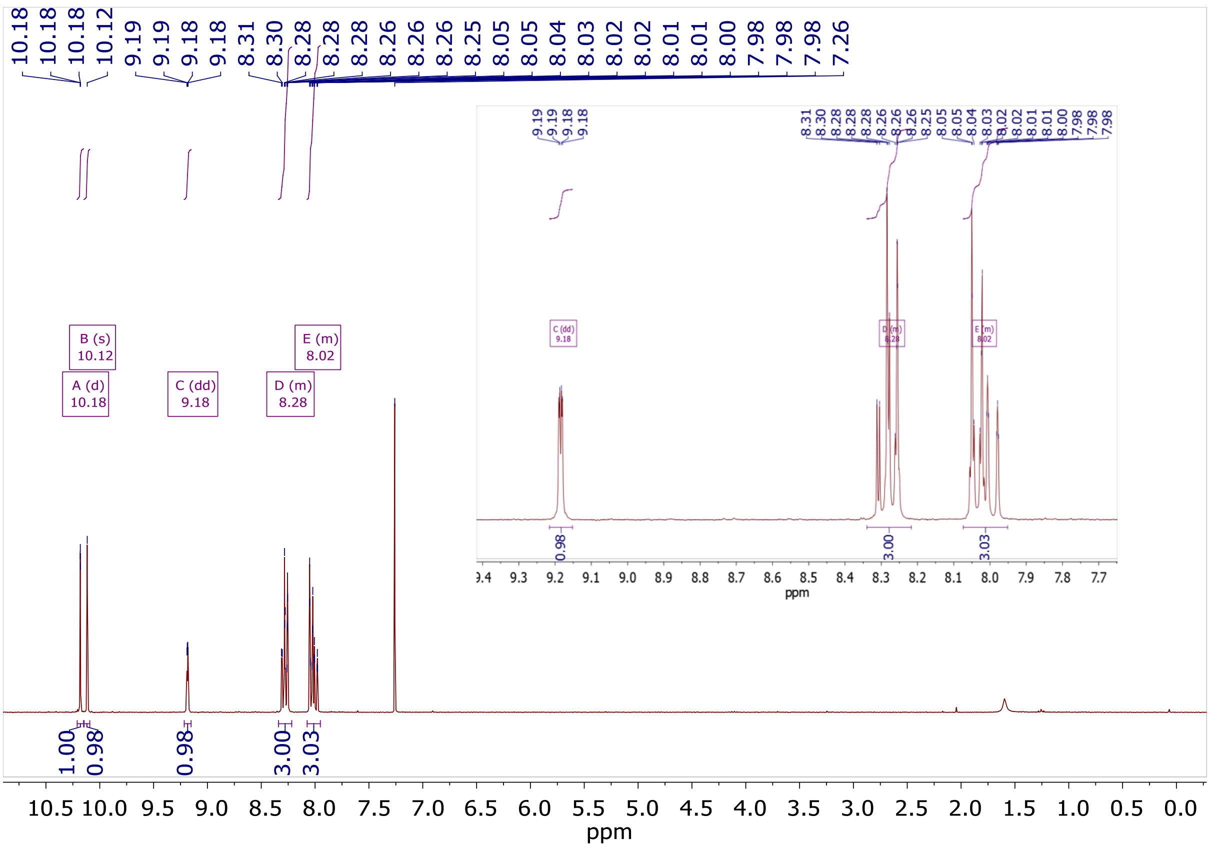


Figure S7. [1]H NMR of **4-CHO-fppy**.

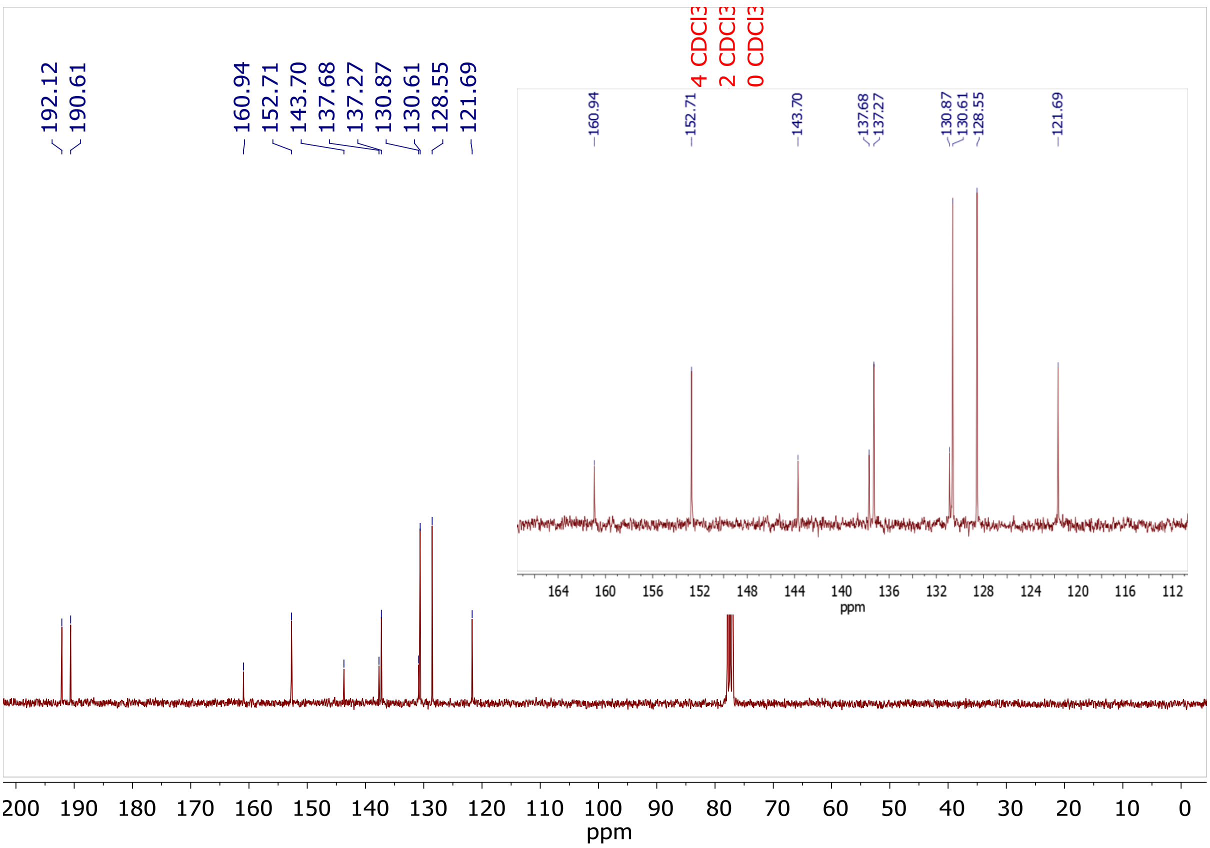


Figure S8. [13]C NMR of **4-CHO-fppy**.

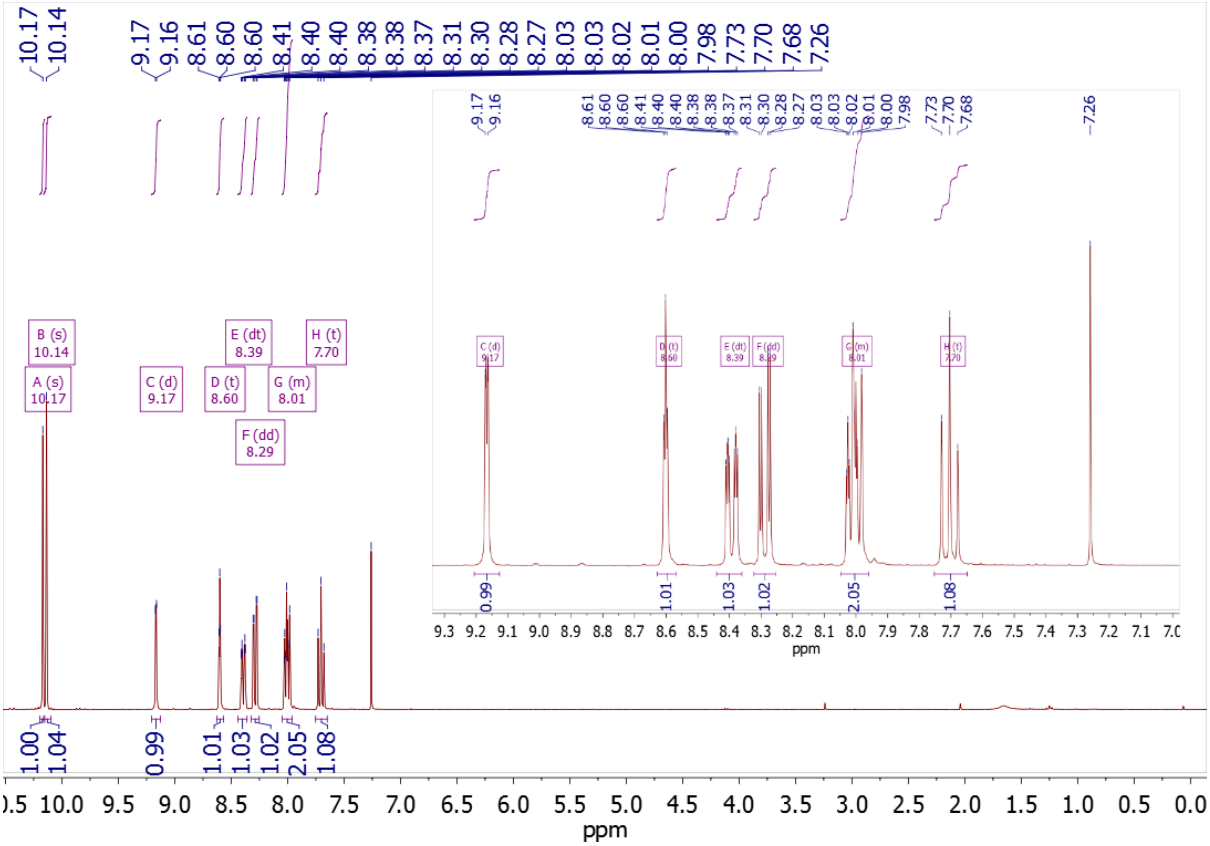


Figure S9. ^{1}H NMR of **3-CHO-fppy**.

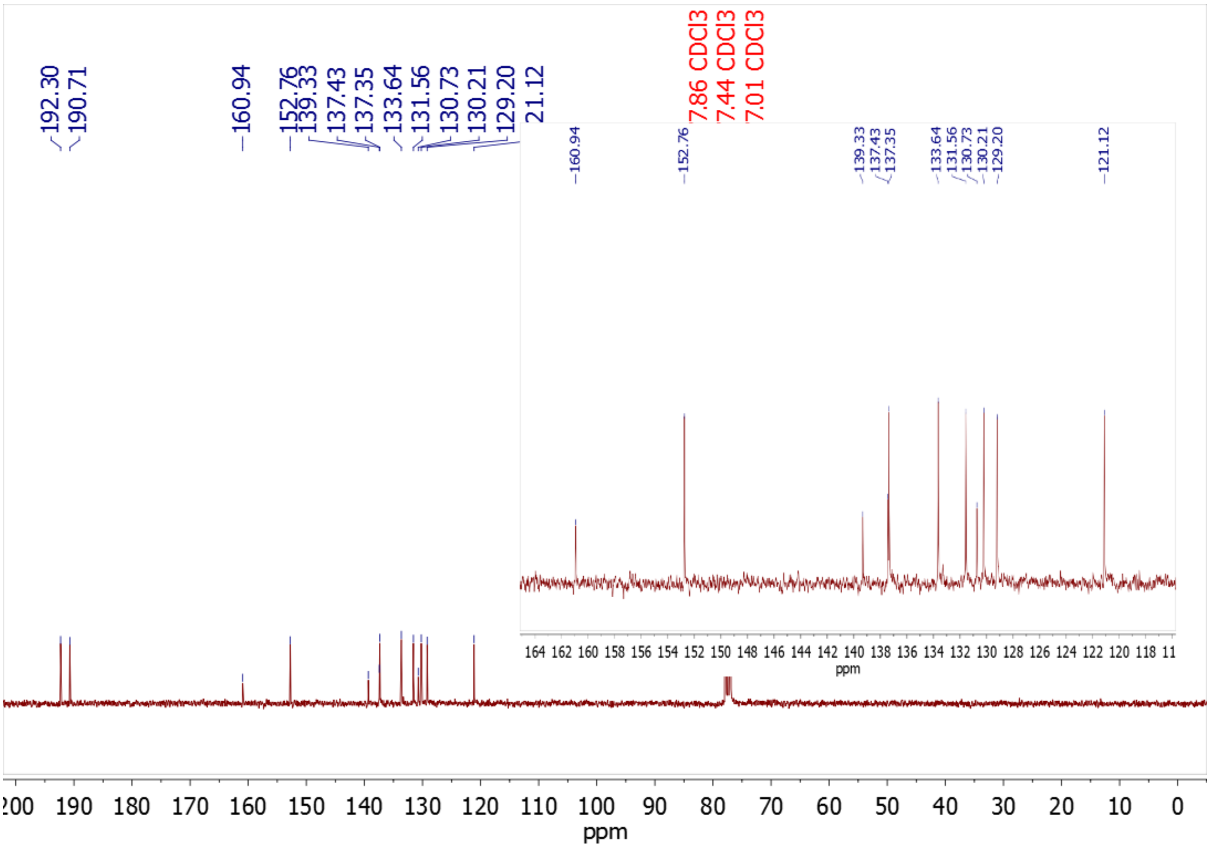


Figure S10. ^{13}C NMR of **3-CHO-fppy**.

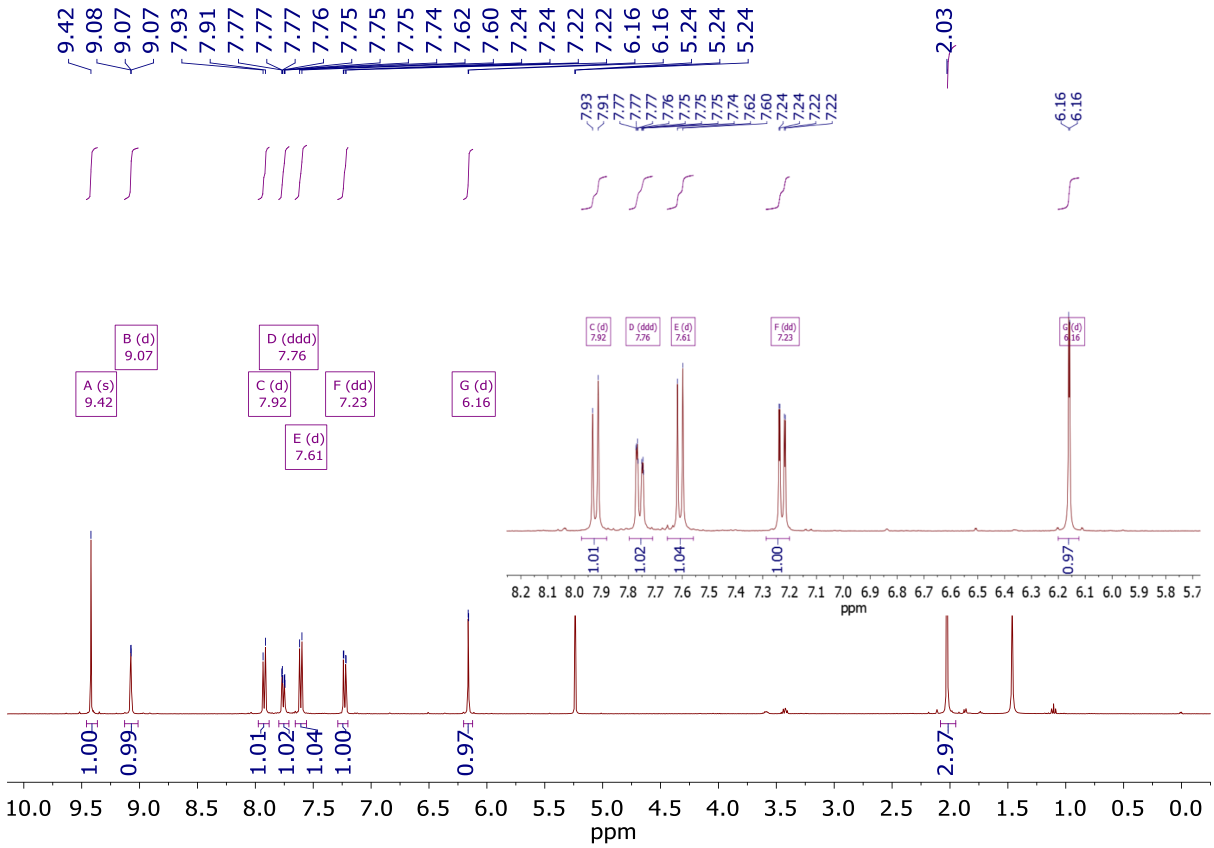
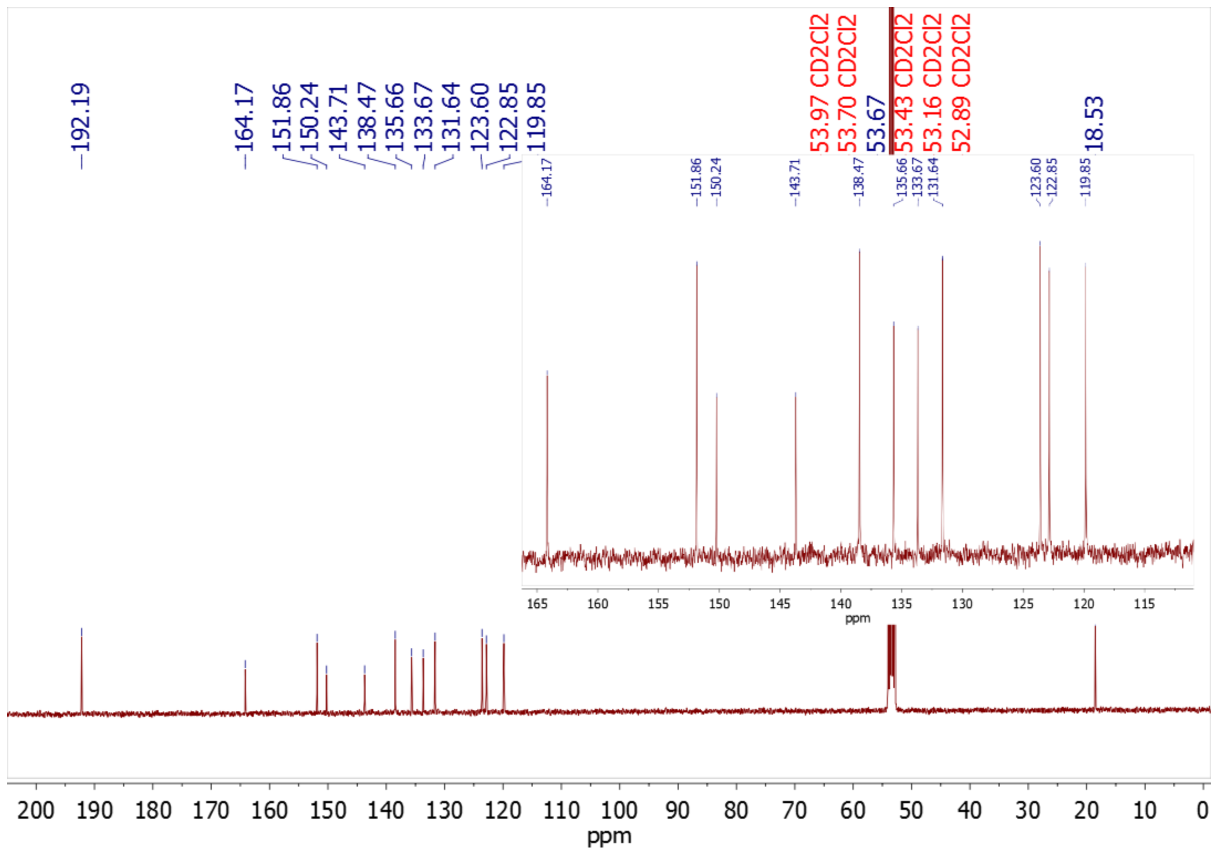


Figure S11. [1]H NMR of complex **1a**.



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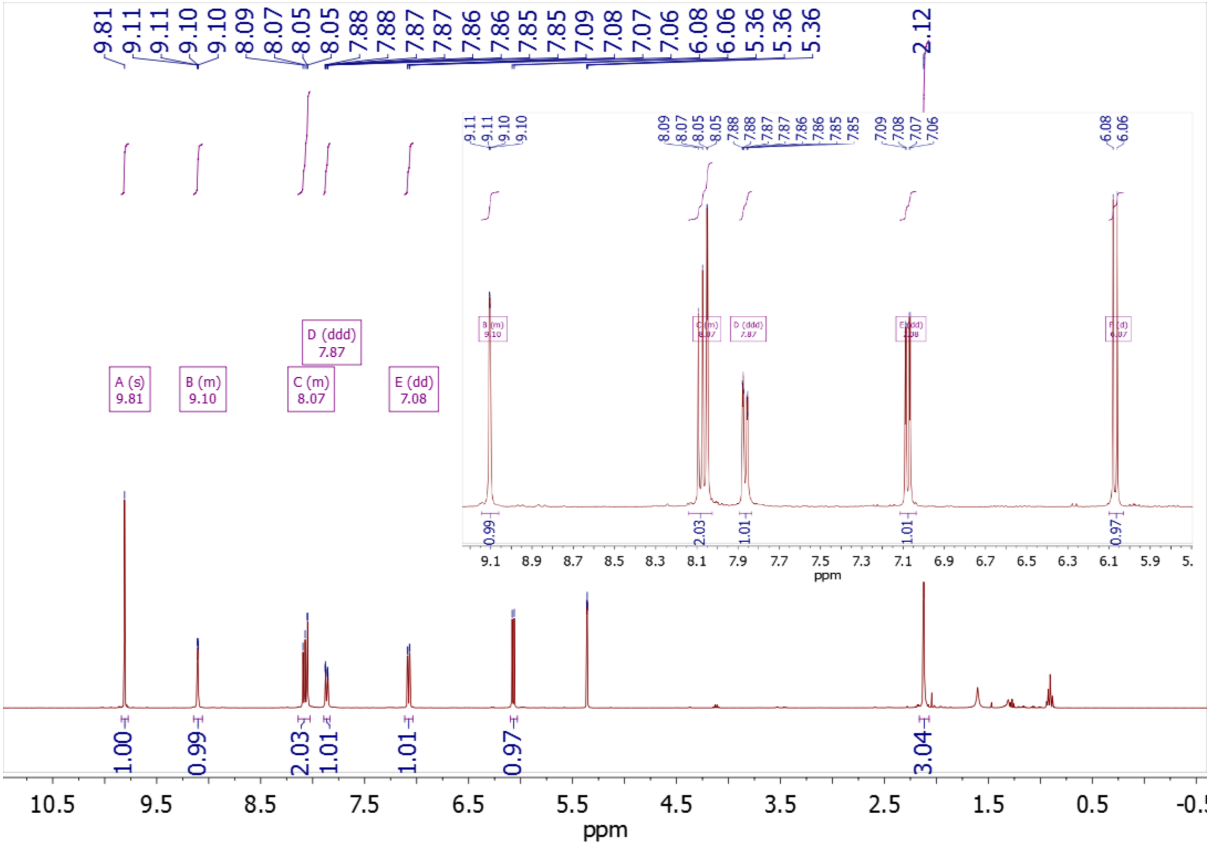

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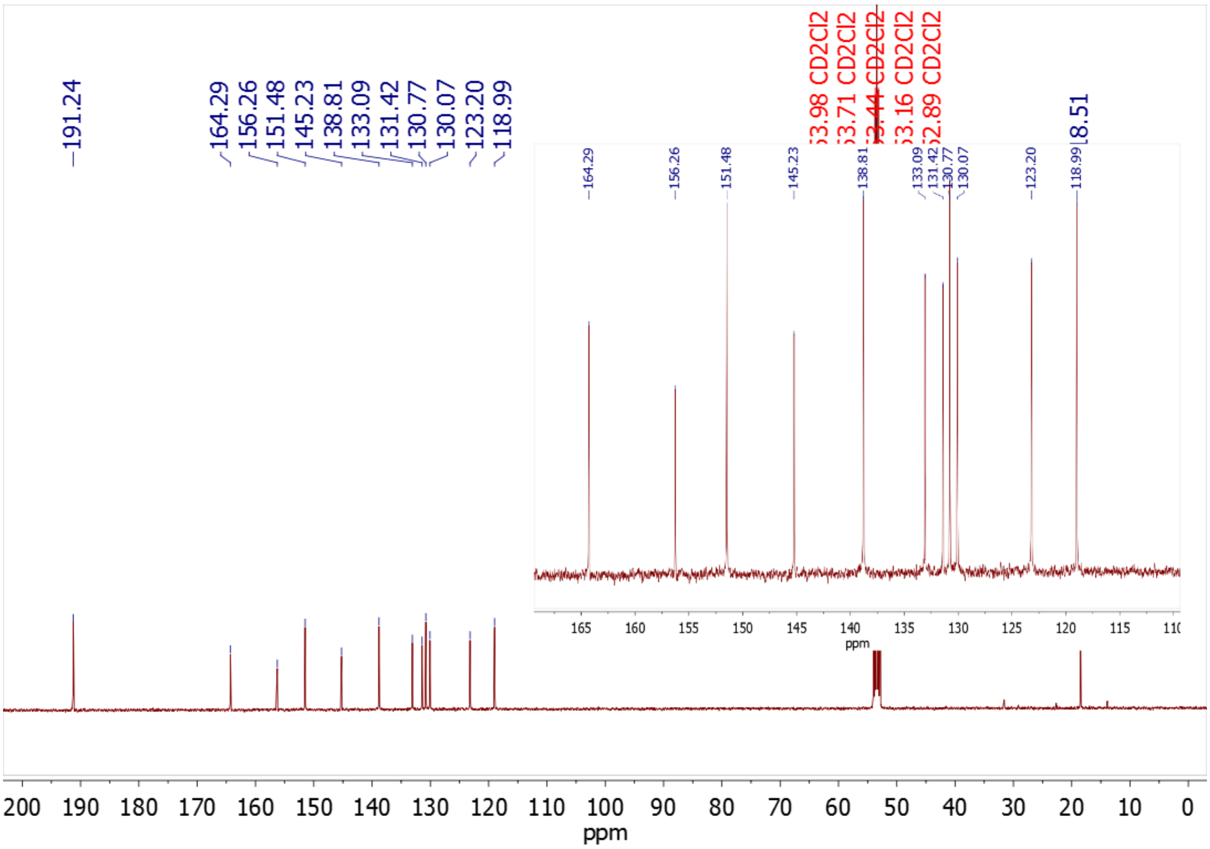

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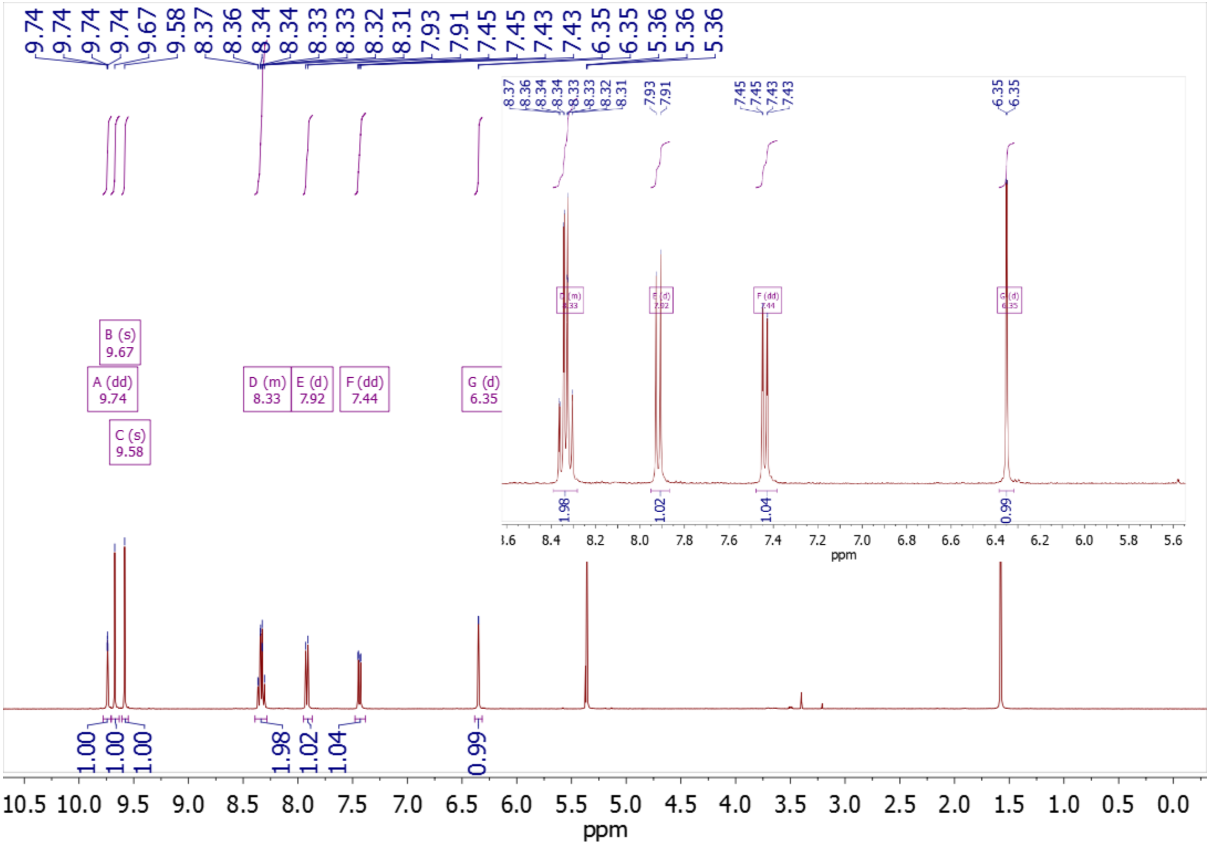

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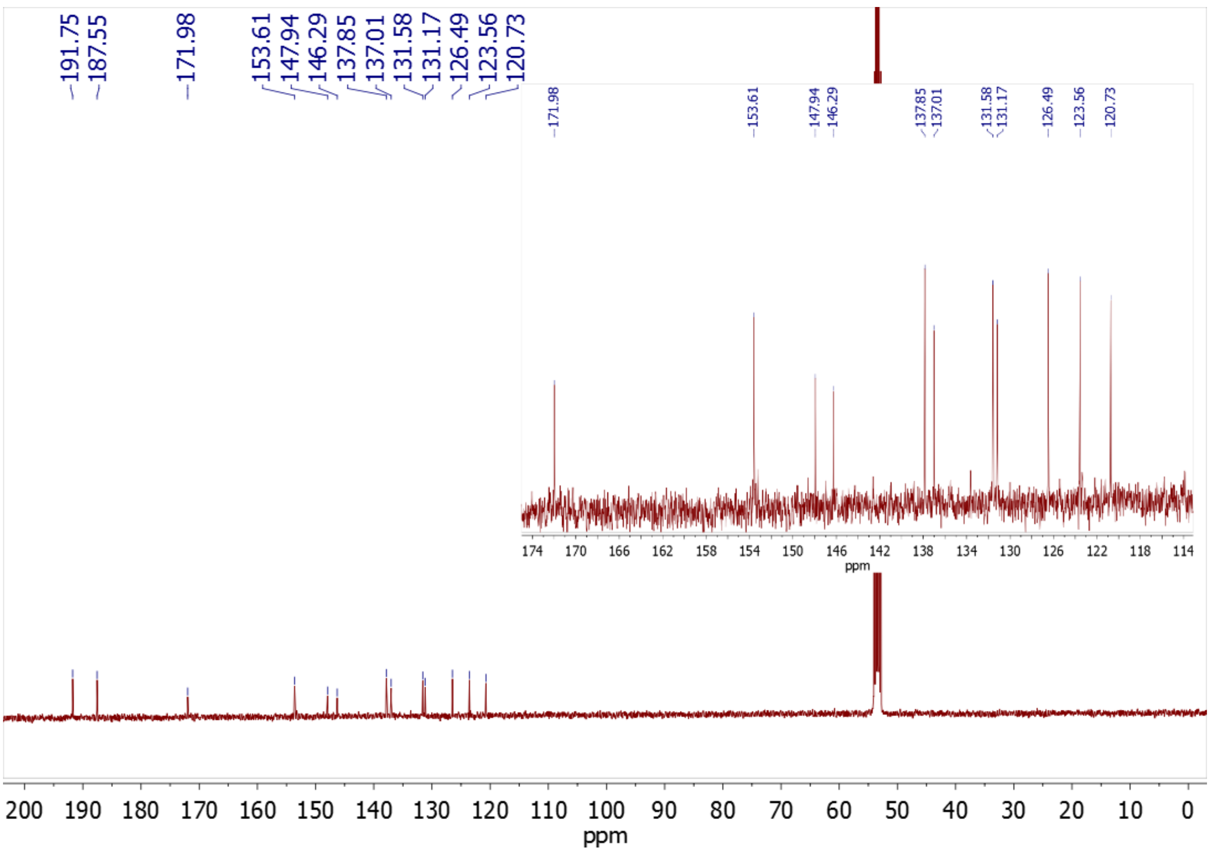

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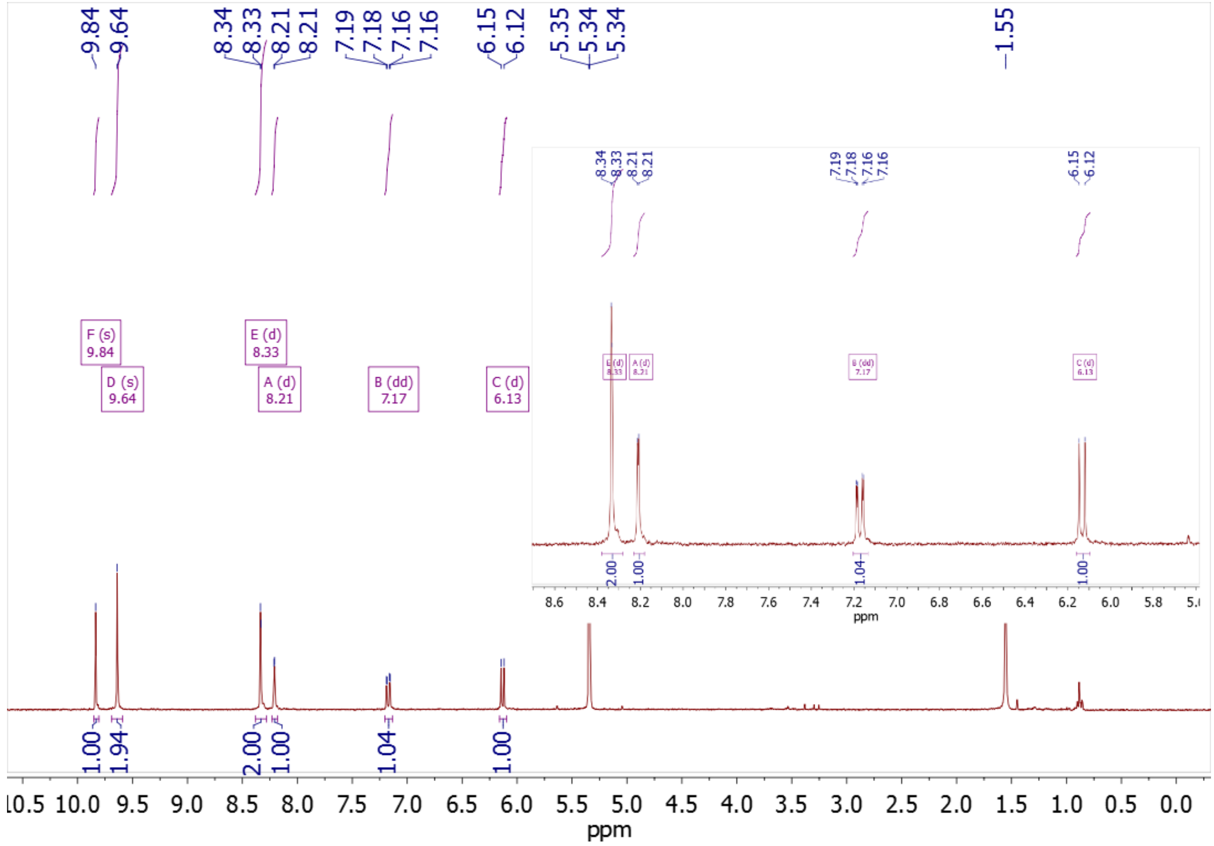

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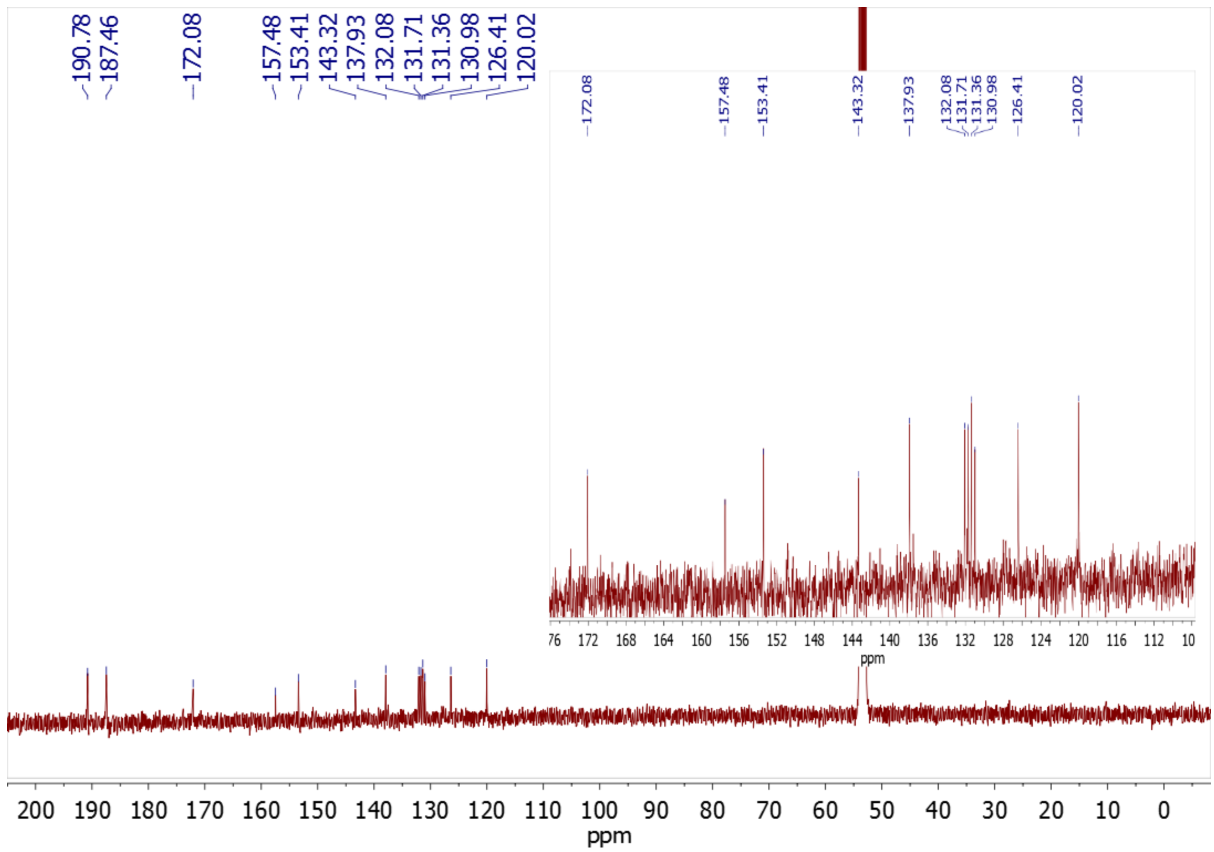


Figure S18. ^{13}C NMR of complex **2b**.

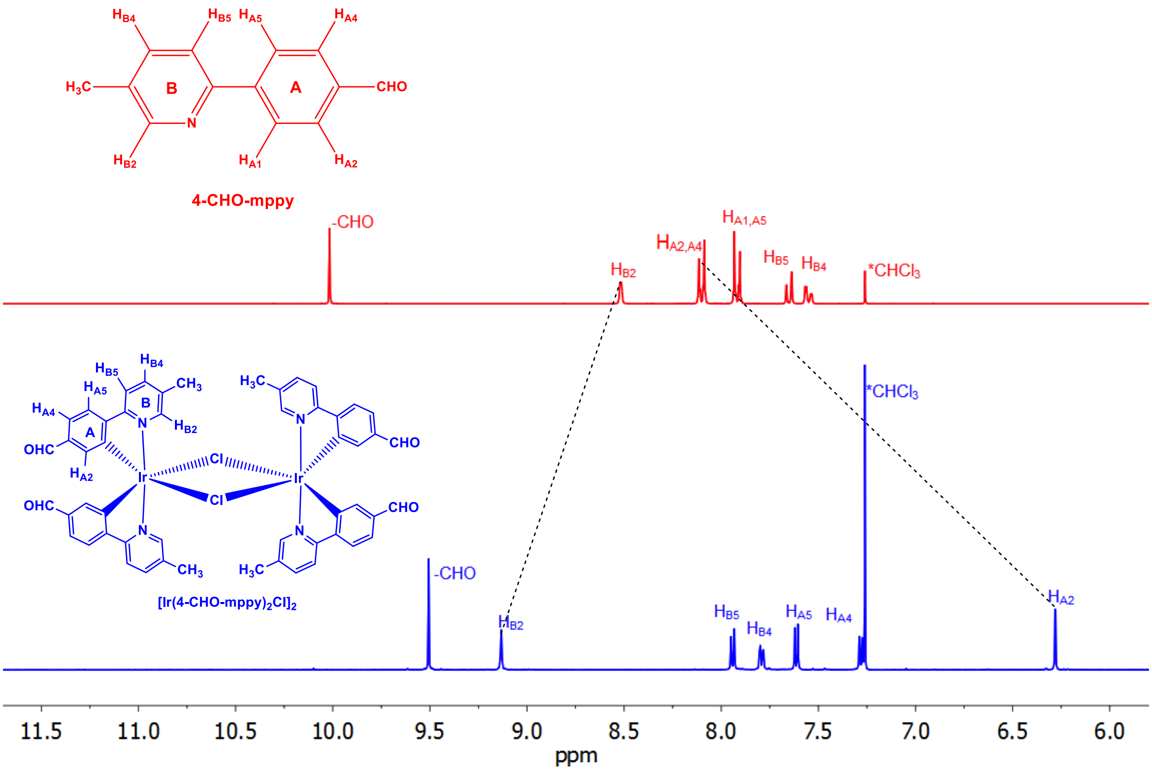
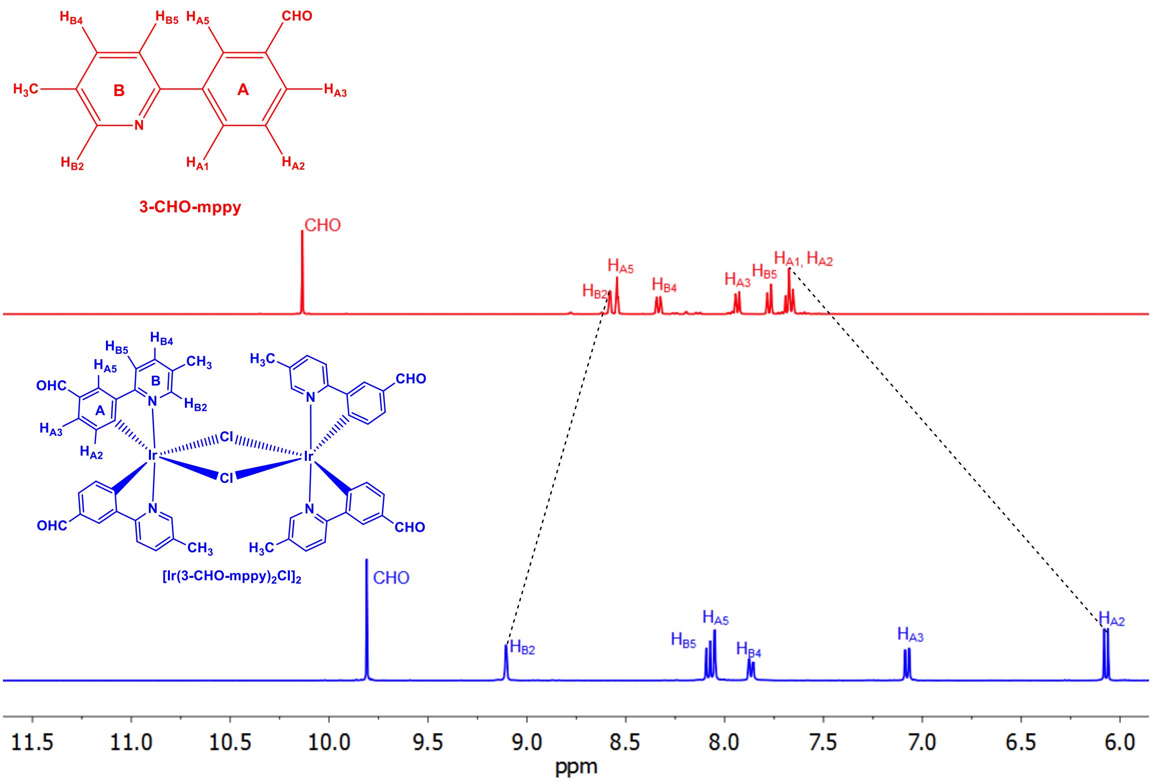


Figure S19. Comparison of ^{1}H NMR between **4-CHO-mppy** and complex **1a**.



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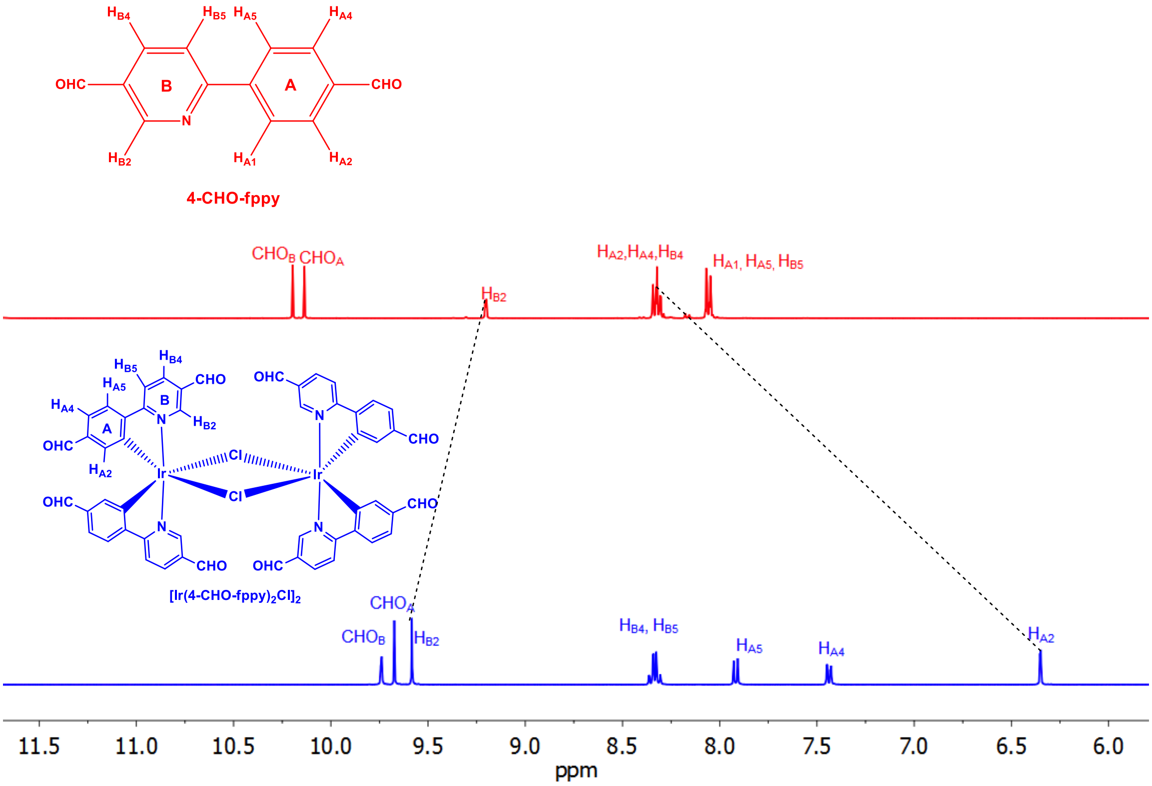
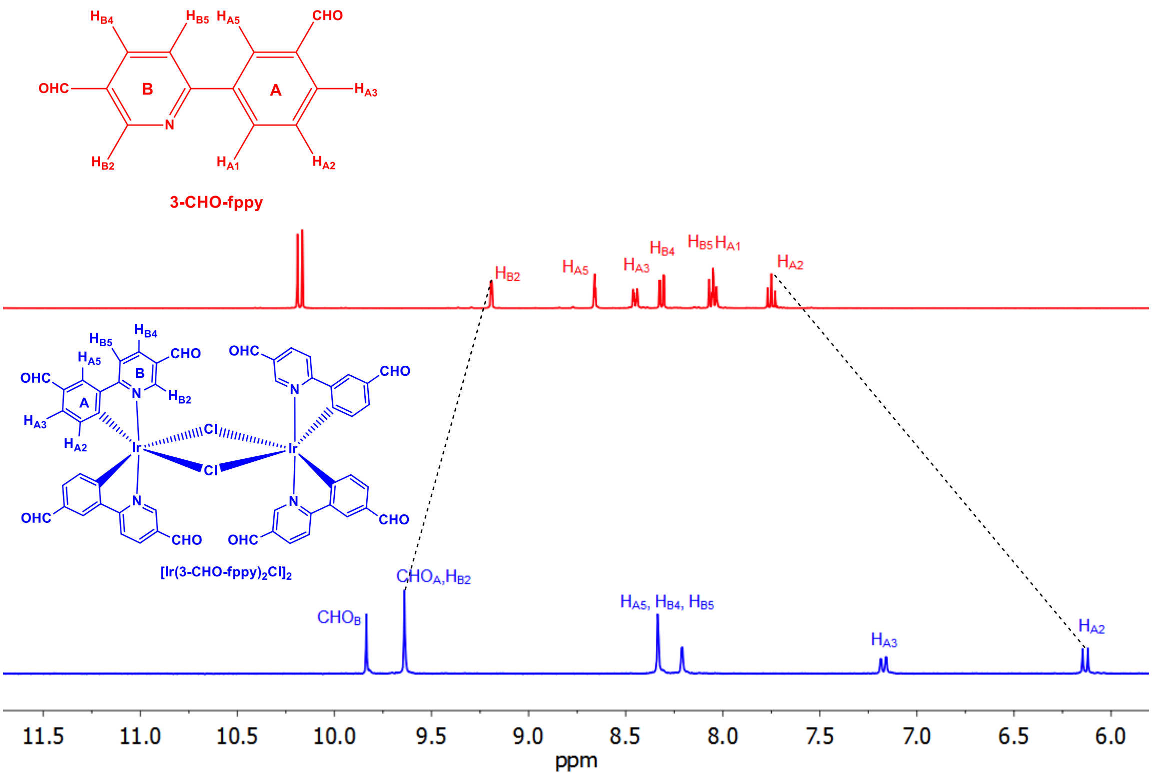


Figure S21. Comparison of ^{1}H NMR between **4-CHO-fppy** and complex **2a**.



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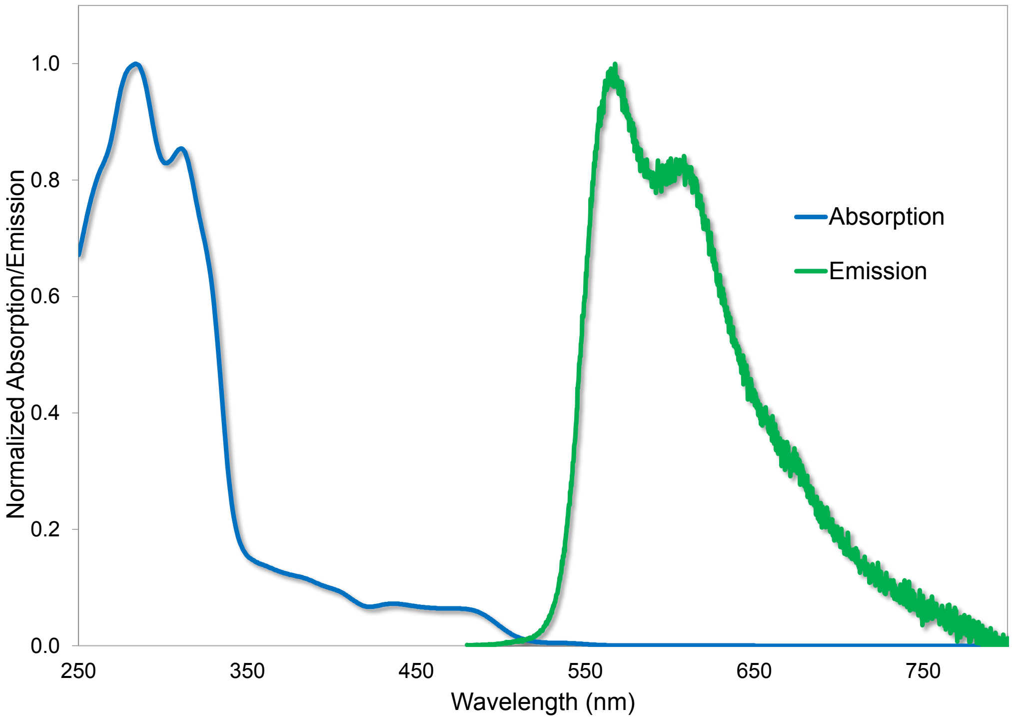

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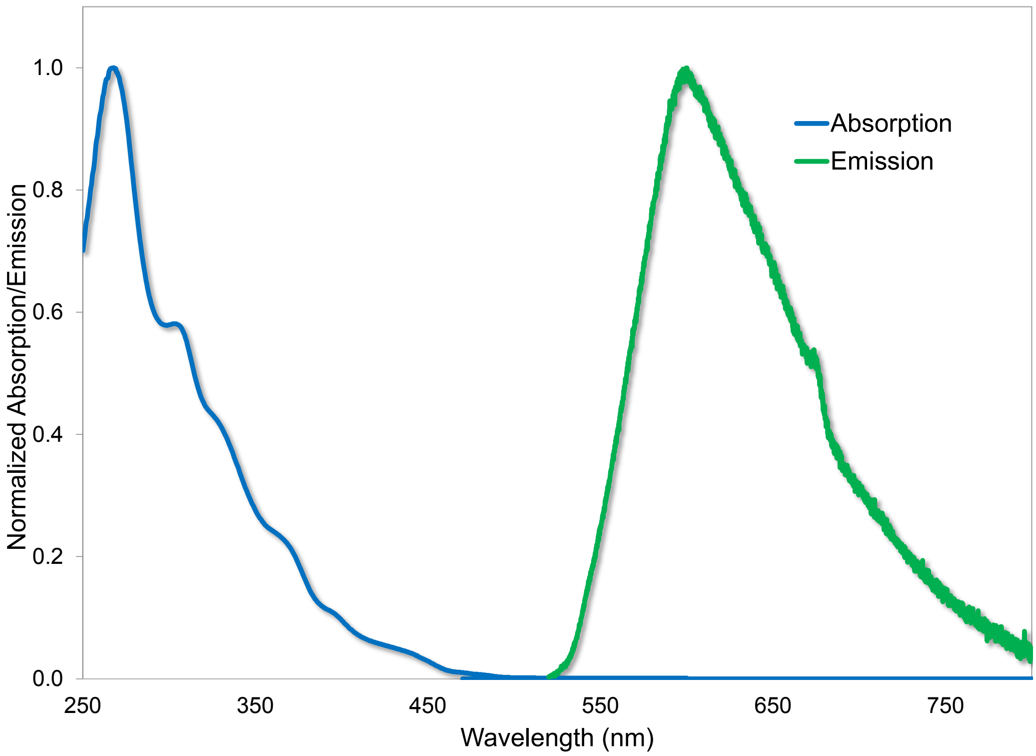

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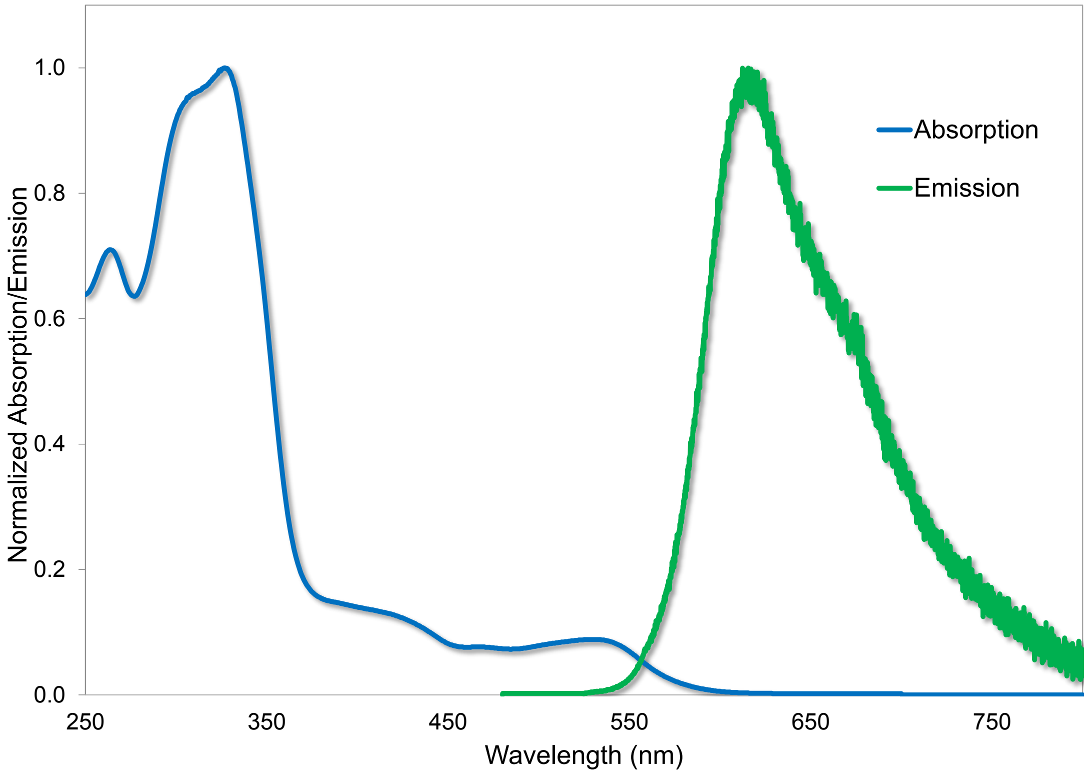

Figure S25. Normalized absorption and emission spectra of complex **2a**.

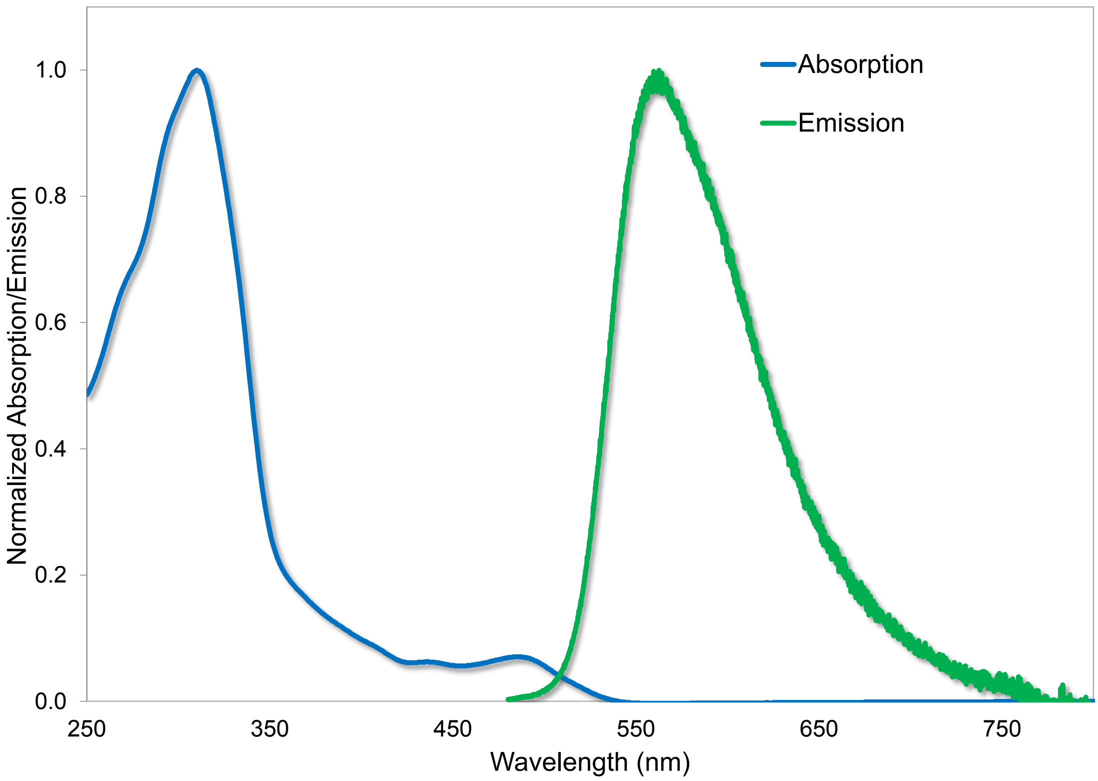

Figure S26. Normalized absorption and emission spectra of complex **2b**.

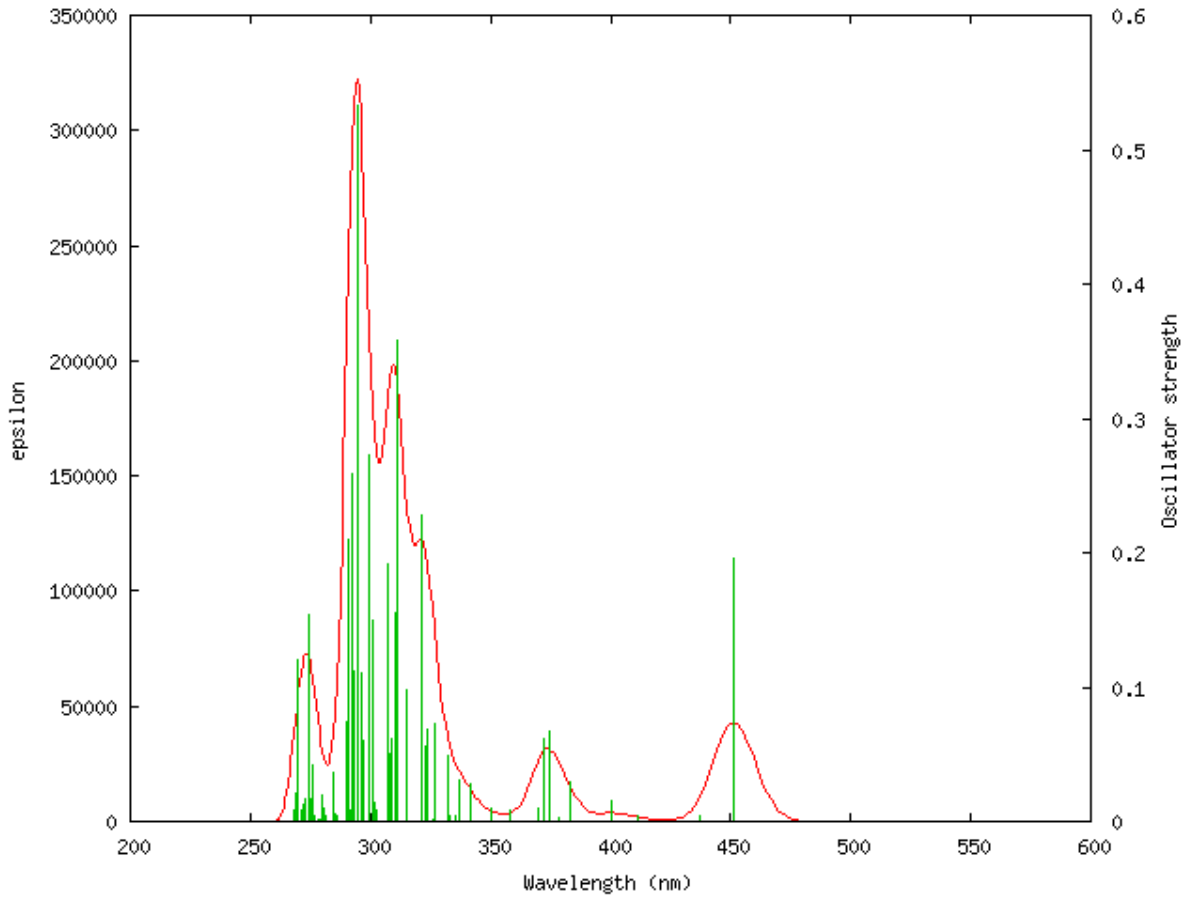

Figure S27. Calculated absorption spectra for **1a**

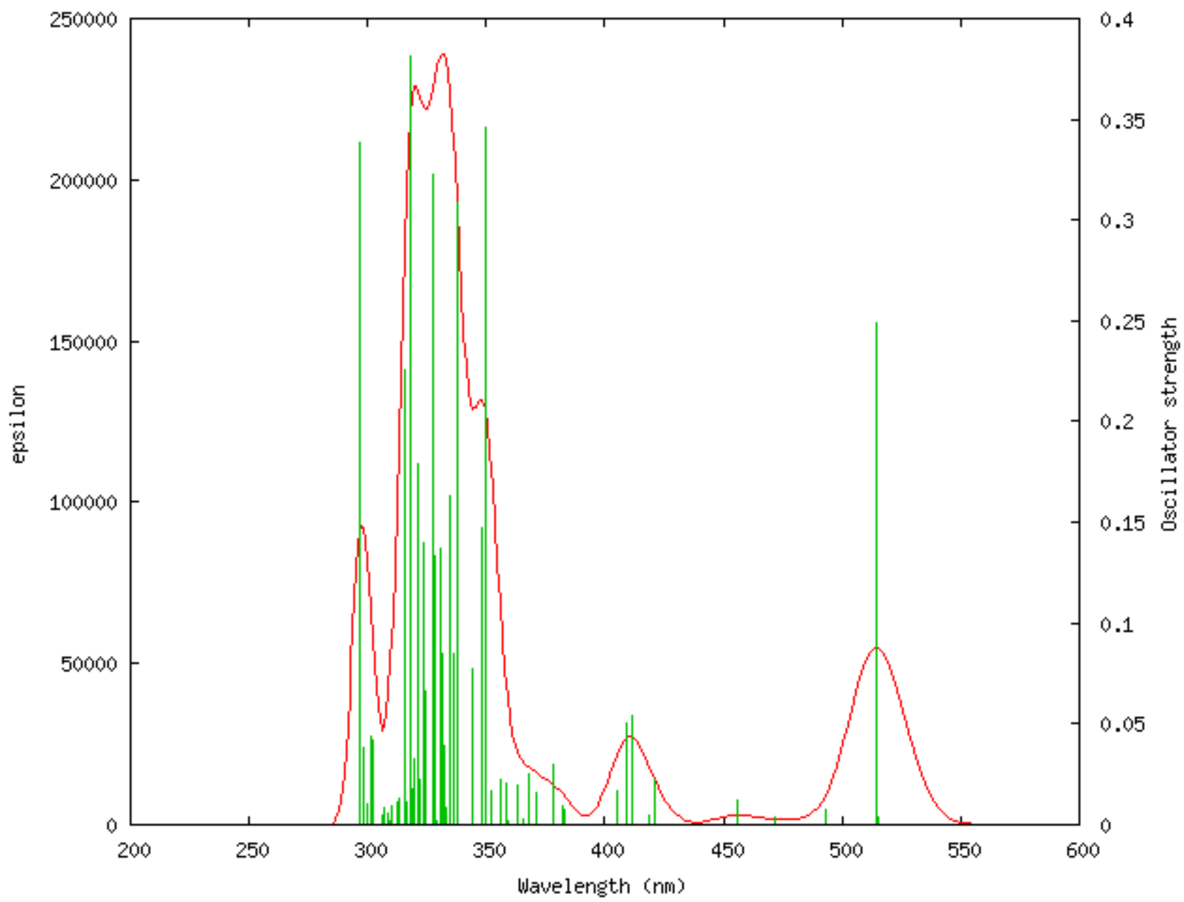

Figure S28. Calculated absorption spectra for **2a**

Table **S1**. Relevant absorption data for **1a-2b**

Complex	λ_{abs} /nm ($\varepsilon \times 10^4$ / M^{-1} cm^{-1})	$E_{0,0}$ (eV)
[Ir(ppy)$_2$Cl]$_2$	261 (8.00), 281 (5.00), 303 (3.12), 338 (1.35), 356 (1.10), 403 (0.66), 454 (0.40), 481 (0.11)	2.49
1a	284 (8.12), 309 (6.92), 330 (4.81), 381 (0.97), 406 (0.76), 485 (0.50)	2.38
1b	267 (7.60), 304 (4.31), 328 (3.22), 368 (1.70), 397 (0.73), 445(0.32), 468 (0.07)	2.58
2a	264 (5.33), 300 (6.92), 327 (7.61), 350sh (4.49), 427 (0.88), 539 (0.65)	2.10
2b	268 (6.21), 311 (9.78), 336 (5.75), 410sh (0.84), 437 (0.65), 485 (0.70)	2.33

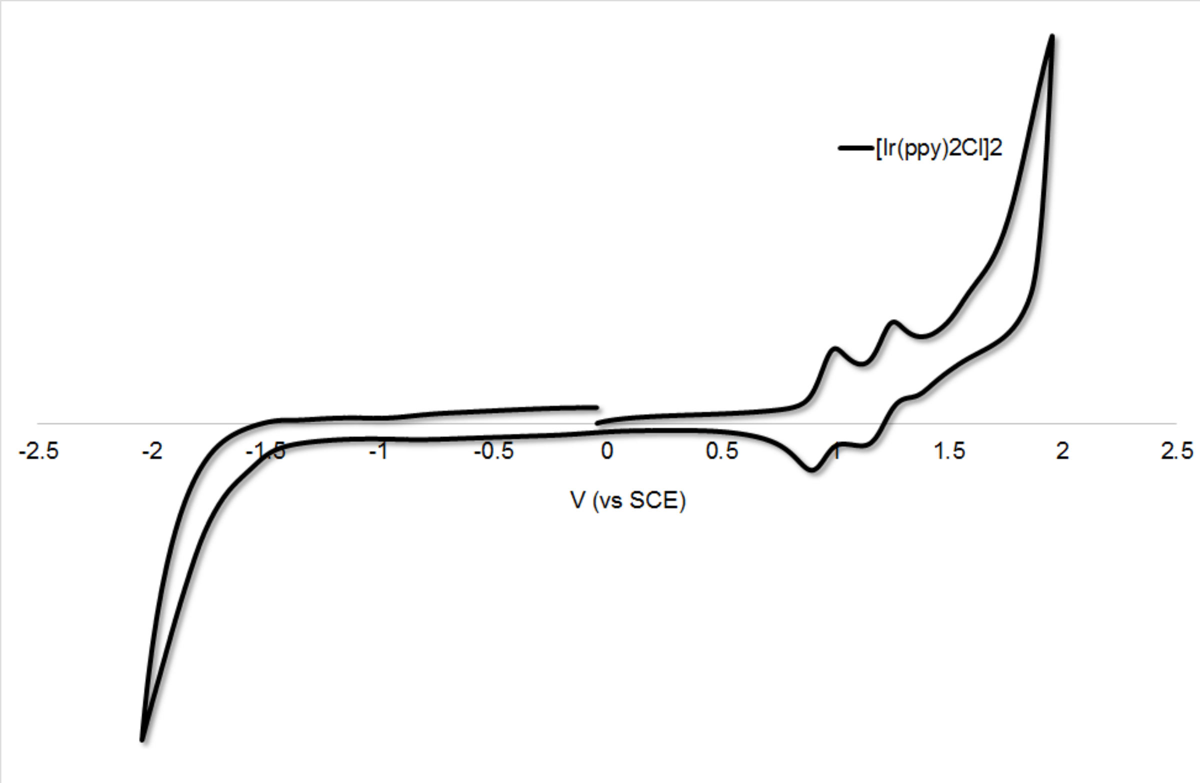

Figure S29. CV trace of complex **[Ir(ppy)$_2$Cl]$_2$**.

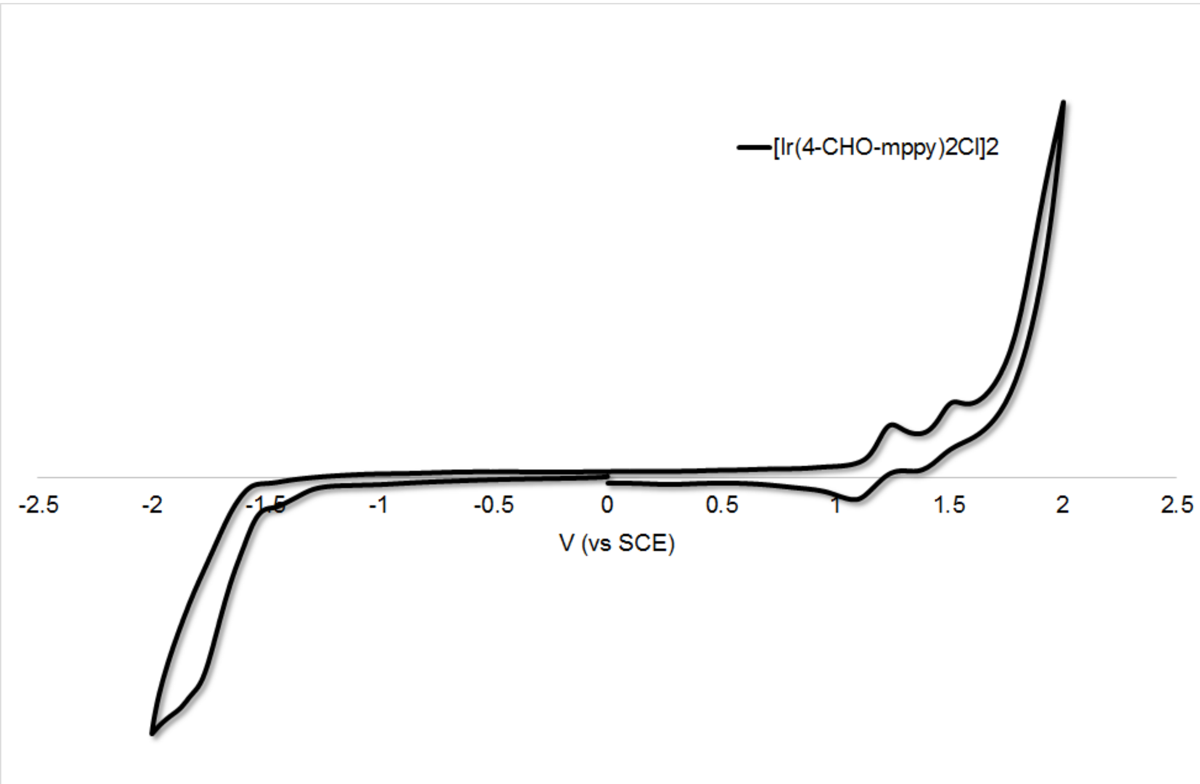

Figure S30. CV trace of complex **1a [Ir(4-CHOmppy)$_2$Cl]$_2$**.

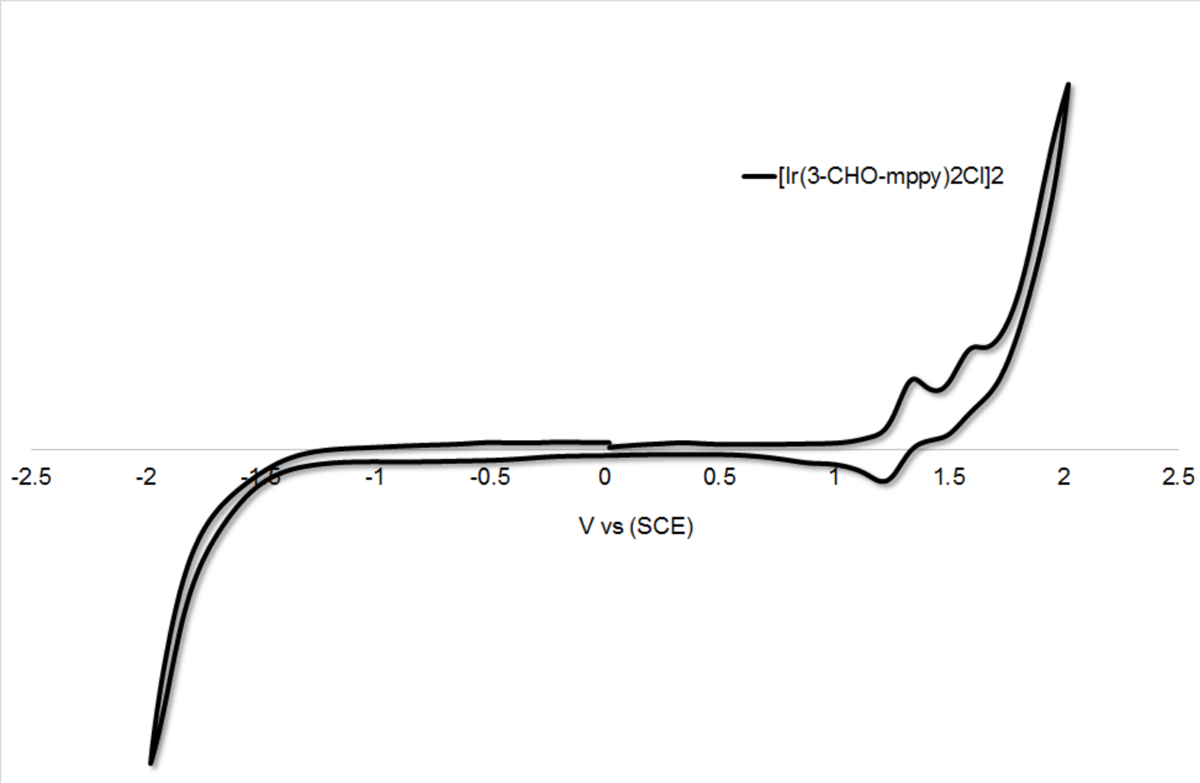

Figure S31. CV trace of complex **1b [Ir(3-CHOmppy)$_2$Cl]$_2$**.

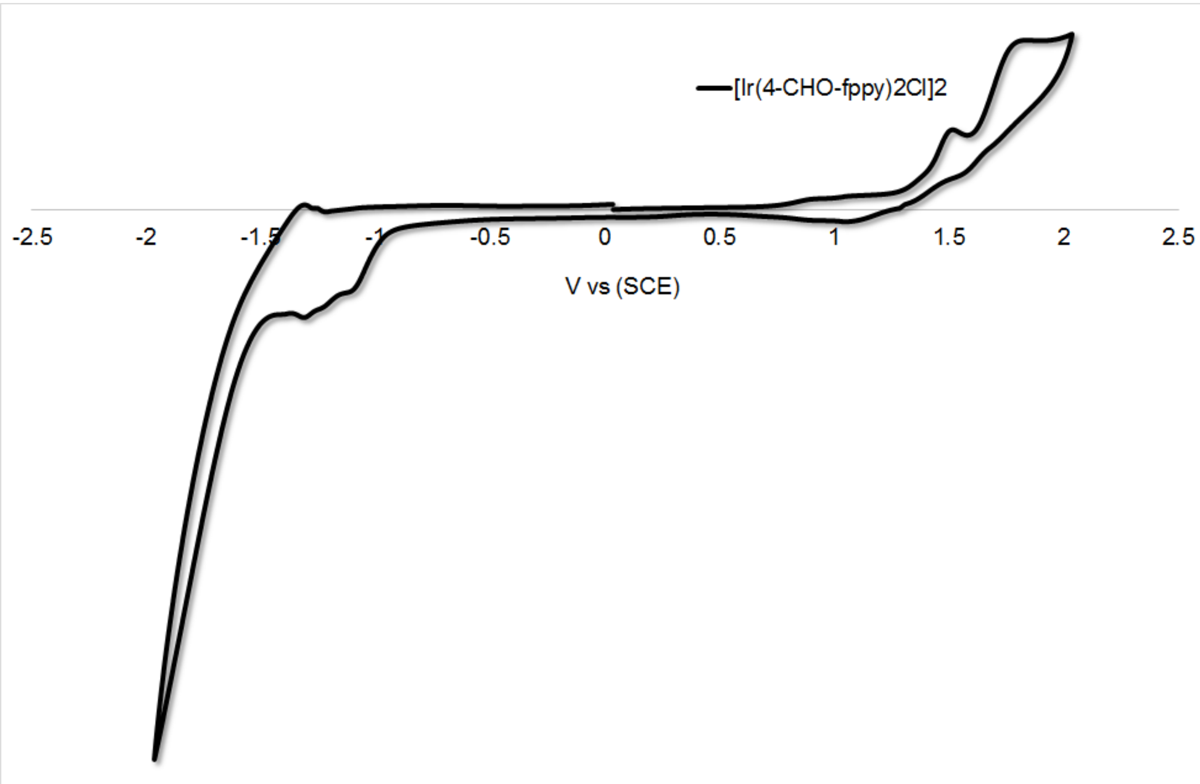

Figure S32. CV trace of complex **2a [Ir(4-CHO-fppy)$_2$Cl]$_2$**.

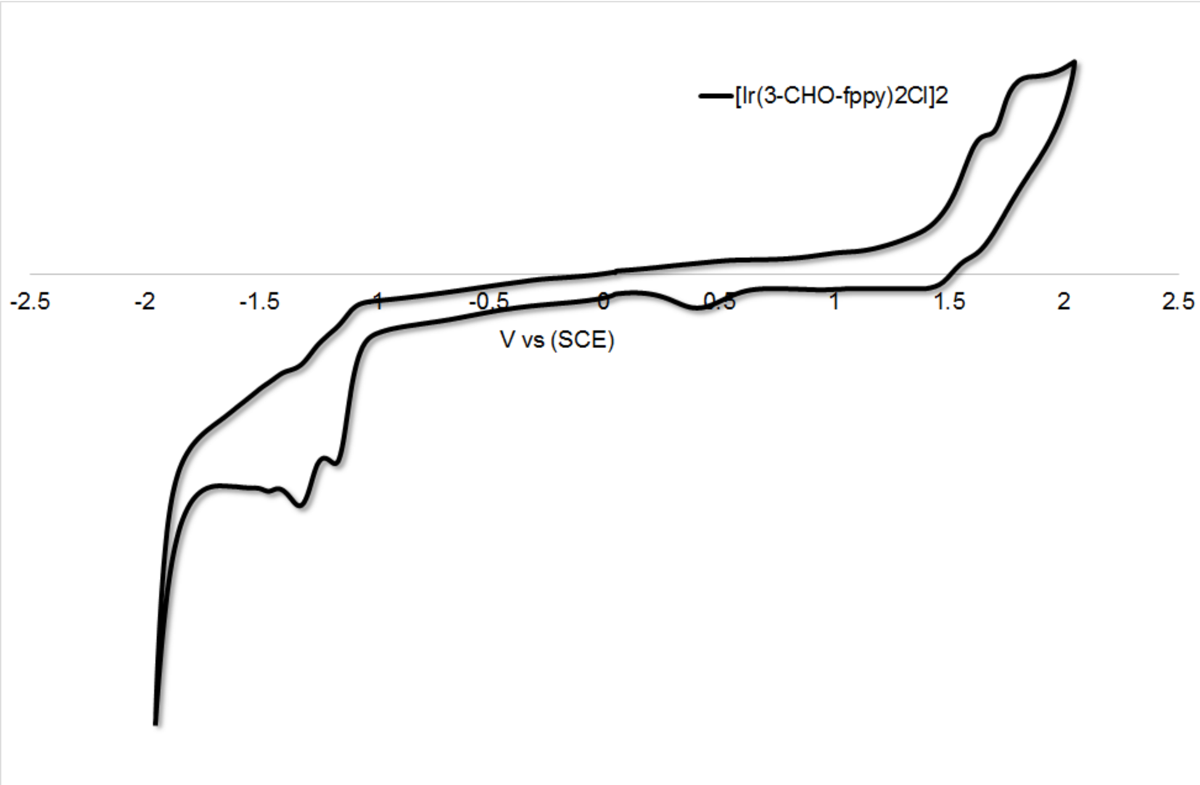

Figure S33. CV trace of complex **2b [Ir(3-CHO-fppy)$_2$Cl]$_2$**.