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**Supporting information for article:**

# Oxygen quenching of structurally characterized [5,10,15,20-tetrakis(4-fluoro-2,6-dimethylphenyl)porphyrinato]platinum(II)

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Supporting Information

# Oxygen Quenching of Structurally Characterized 5,10,15,20-*tetrakis*-(2,6-dimethyl-4-fluorophenyl)porphyrinatoplatinum(II)

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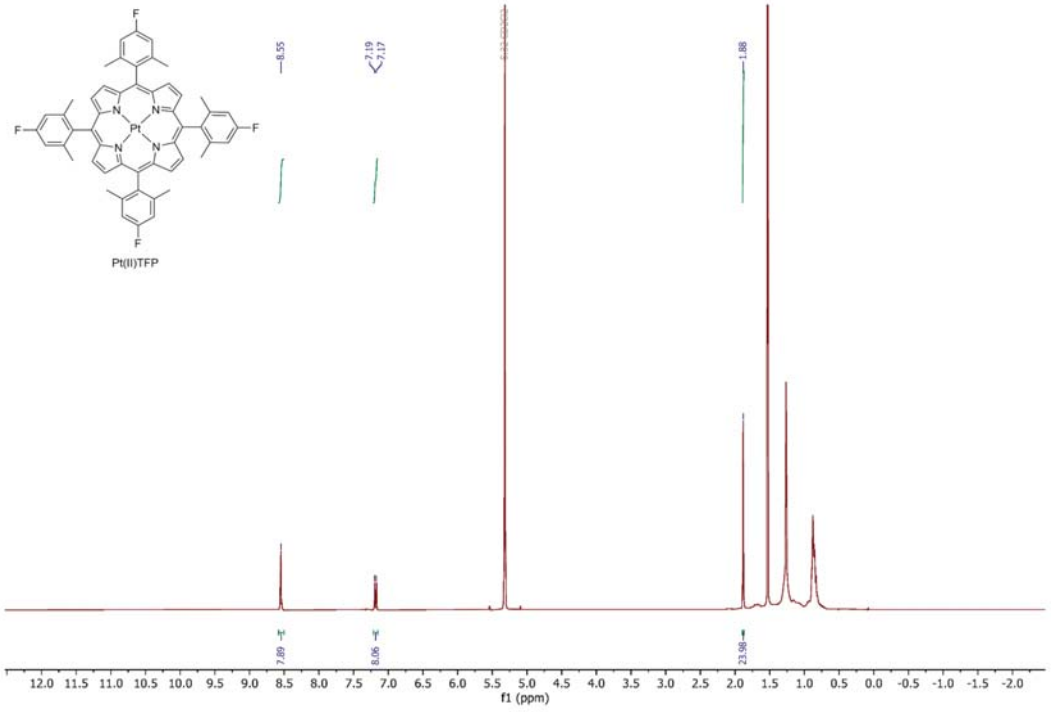



**Figure S1**. $^{1}$H NMR spectrum of **Pt(II)TFP** in $CD_2Cl_2$, 400 MHz.

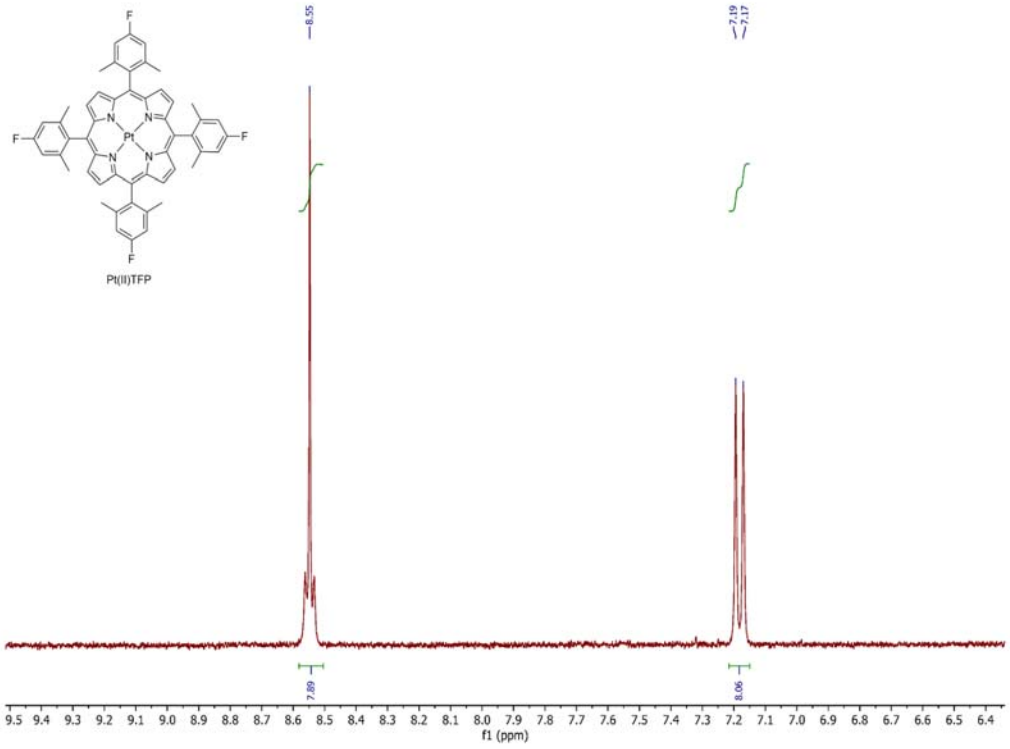



**Figure S2**: The aromatic region of **Pt(II)TFP** in $CD_2Cl_2$, 400 MHz.

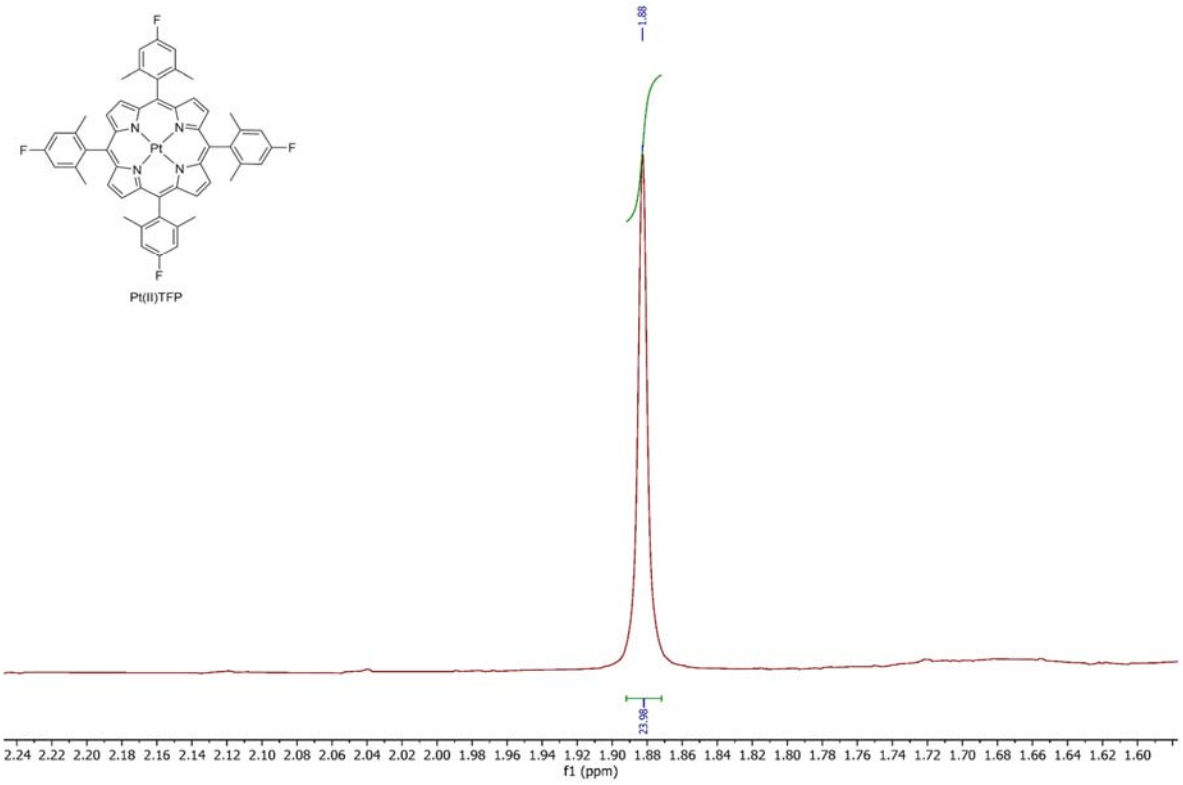



**Figure S3**. The aliphatic region of **Pt(II)TFP** in $CD_2Cl_2$, 400 MHz.

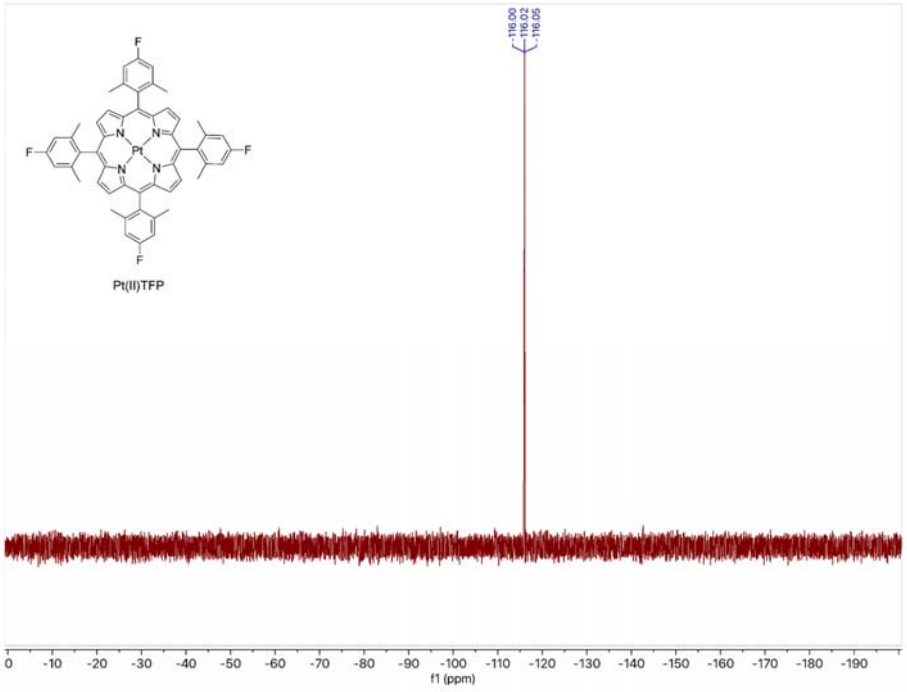



**Figure S4**. $^{19}F$ NMR spectrum of **Pt(II)TFP** in $CD_2Cl_2$, 379 MHz.

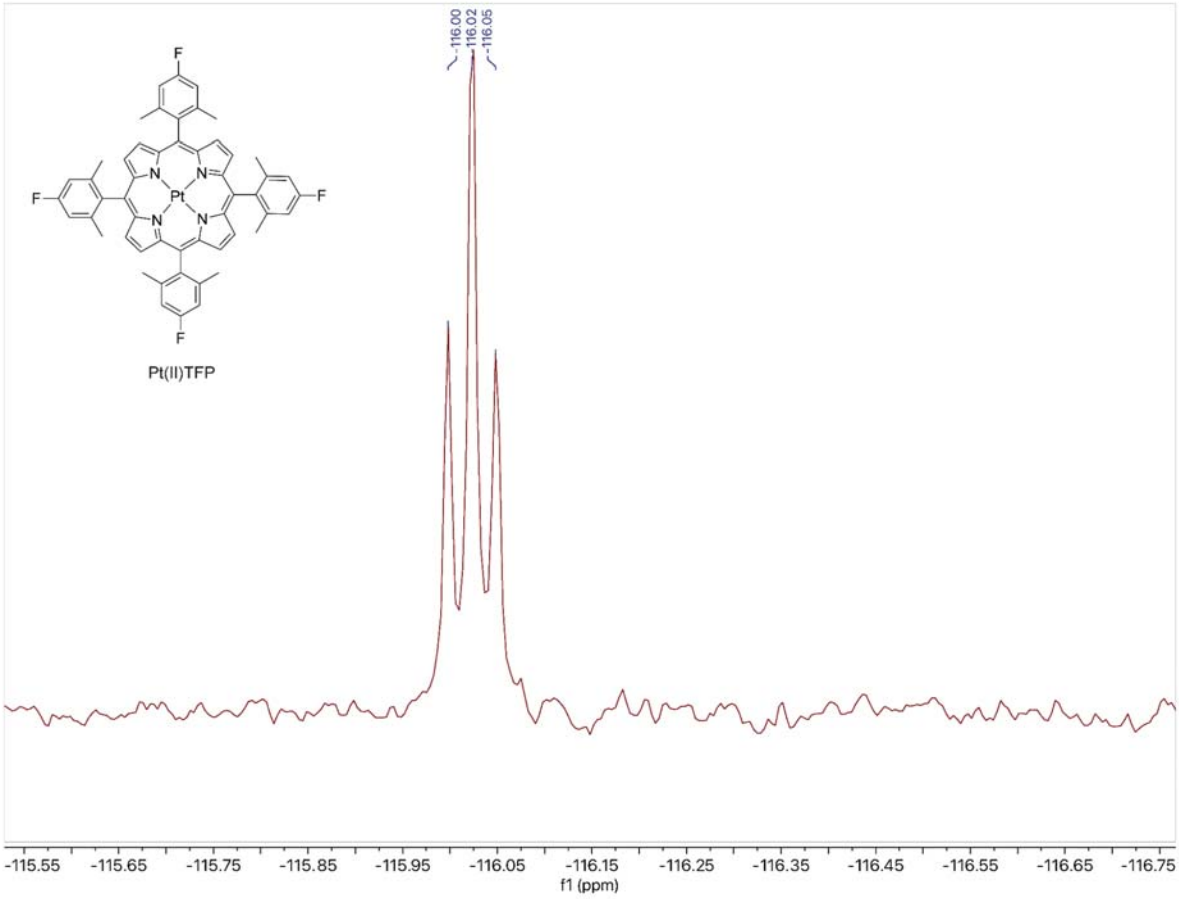



**Figure S5**. $^{19}$F NMR spectrum of **Pt(II)TFP** in $CD_2Cl_2$, zoomed in region, 379 MHz.

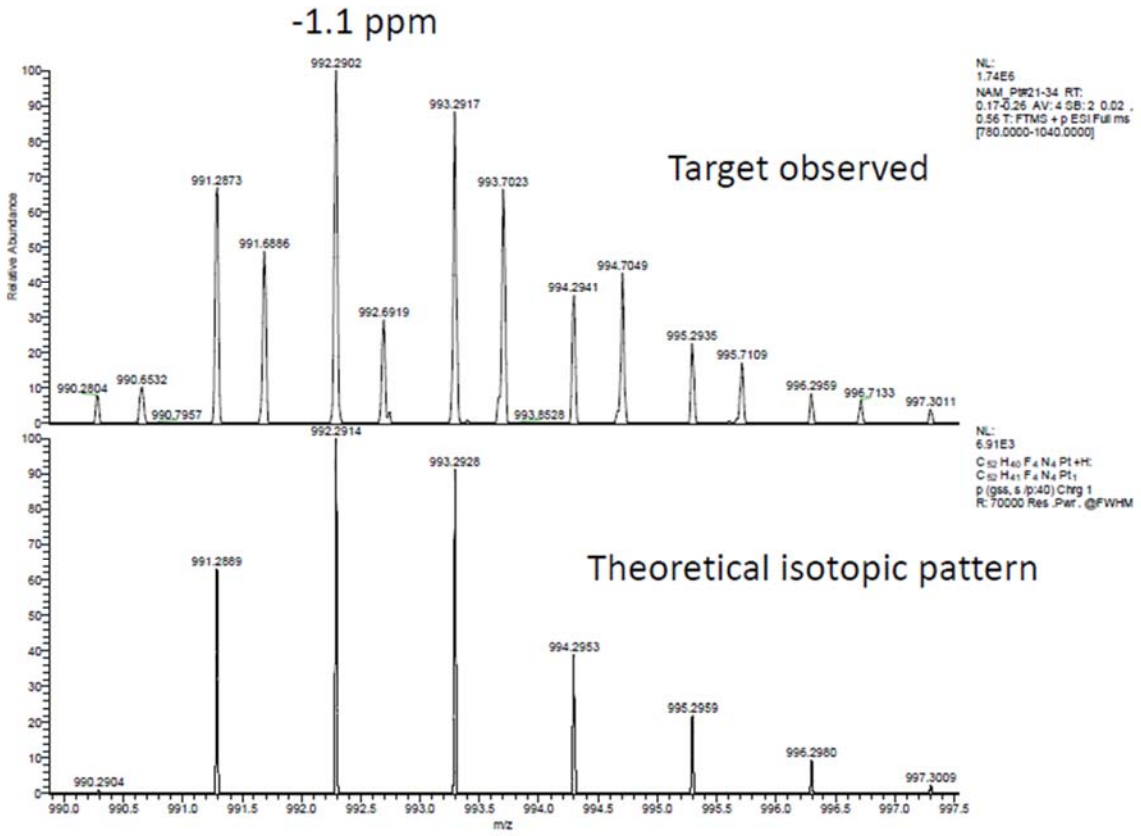
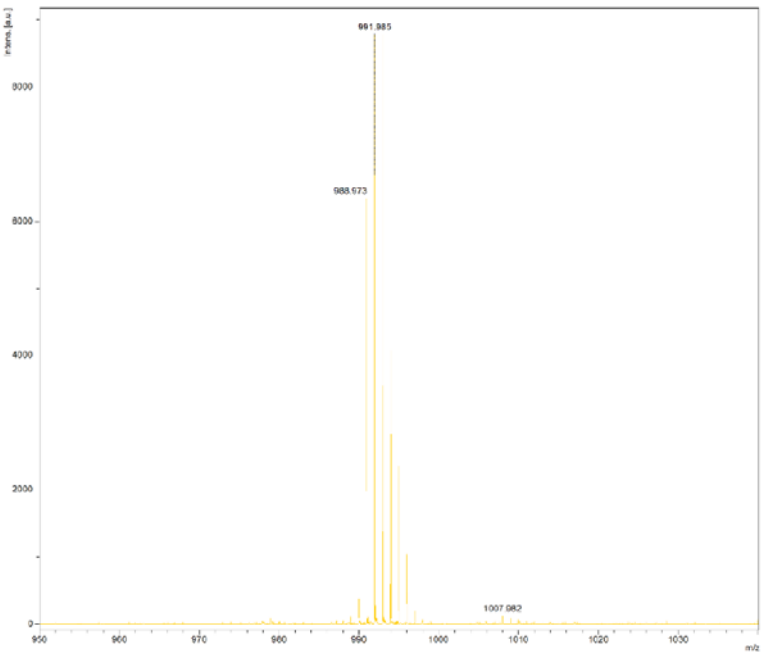


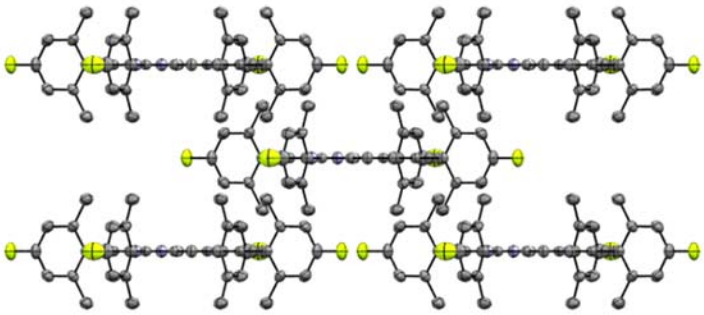

**Figure S6.** High resolution mass spectrometry of **Pt(II)TFP**.




| m/z | S/N | Quality Fac. | Res. | Intens. | Area |
|---|---|---|---|---|---|
| 1983.856 | 12 | 138 | 45323 | 81.7 | 11.2 |
| 1007.982 | 8 | 198 | 32186 | 133 | 8.19 |
| 994.988 | 67 | 1532 | 34351 | 1119 | 66.0 |
| 993.993 | 44 | 116 | 38066 | 733 | 38.8 |
| 992.997 | 270 | 752 | 42341 | 4458 | 201 |
| 991.985 | 403 | 730 | 30928 | 6682 | 417 |
| 990.981 | 384 | 1079 | 36694 | 6546 | 344 |
| 989.965 | 23 | 2.28 | 28699 | 392 | 26.6 |
| 988.973 | 6 | 0.720 | 29907 | 100 | 6.18 |
| 347.957 | 8 | 764 | 46830 | 54.6 | 0.526 |
| 220.925 | 8 | 677 | 33065 | 53.9 | 0.433 |
| 144.397 | 10 | 1512 | 28502 | 67.8 | 0.392 |
| 50.352 | 6 | 688 | 14786 | 45.0 | 0.166 |
| 41.278 | 8 | 2079 | 15287 | 53.7 | 0.157 |

**Figure S7.** MALDI-TOF of **Pt(II)TFP**.

**(a)**



**(b)**

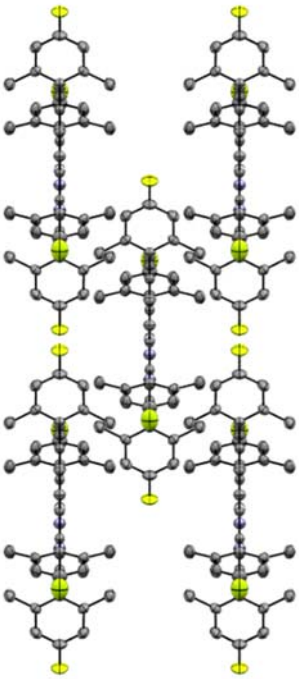


**Figure S8**. Crystal packing of the **Pt(II)TFP** along the (a) a-axis and (b) b-axis. Hydrogen atoms are omitted for clarity. Color scheme: C (gray), N (light purple), F (yellow-green), Pt (white).

**Table S1.** Selected geometric parameters for **Pt(II)TFP**

*Bond Distances (Å)*

| | | | |
|---|---|---|---|
| Pt1—N1$^{i}$ | 2.014 (4) | C3—H3 | 0.9500 |
| Pt1—N1$^{ii}$ | 2.014 (4) | C4—C5 | 1.400 (8) |
| Pt1—N1$^{iii}$ | 2.014 (4) | C5—C6 | 1.494 (7) |
| Pt1—N1 | 2.014 (4) | C6—C7$^{iv}$ | 1.403 (5) |
| F1—C9 | 1.358 (7) | C6—C7 | 1.403 (5) |
| N1—C4 | 1.362 (8) | C7—C8 | 1.389 (6) |
| N1—C1 | 1.383 (7) | C7—C10 | 1.506 (6) |
| C1—C5$^{ii}$ | 1.391 (8) | C8—C9 | 1.367 (6) |
| C1—C2 | 1.430 (8) | C8—H8 | 0.9517 |
| C2—C3 | 1.352 (8) | C10—H10A | 0.9800 |
| C2—H2 | 0.9496 | C10—H10B | 0.9801 |
| C3—C4 | 1.437 (8) | C10—H10C | 0.9800 |

*Bond Angles (°)*

| | | | |
|---|---|---|---|
| N1$^{i}$—Pt1—N1$^{ii}$ | 180.0 | C1$^{i}$—C5—C4 | 123.3 (5) |
| N1$^{i}$—Pt1—N1$^{iii}$ | 90.0 | C1$^{i}$—C5—C6 | 118.8 (5) |
| N1$^{ii}$—Pt1—N1$^{iii}$ | 90.0 | C4—C5—C6 | 117.9 (5) |
| N1$^{i}$—Pt1—N1 | 89.999 (1) | C7$^{iv}$—C6—C7 | 120.6 (5) |
| N1$^{ii}$—Pt1—N1 | 90.0 | C7$^{iv}$—C6—C5 | 119.7 (2) |
| N1$^{iii}$—Pt1—N1 | 180.0 | C7—C6—C5 | 119.7 (2) |
| C4—N1—C1 | 106.4 (4) | C8—C7—C6 | 118.9 (4) |
| C4—N1—Pt1 | 127.2 (4) | C8—C7—C10 | 119.7 (4) |
| C1—N1—Pt1 | 126.3 (4) | C6—C7—C10 | 121.3 (3) |
| N1—C1—C5$^{ii}$ | 126.7 (5) | C9—C8—C7 | 119.3 (4) |
| N1—C1—C2 | 109.1 (5) | C9—C8—H8 | 119.7 |

| | |
|---|---|
| C5$^{ii}$—C1—C2 | 124.1 (5) |
| C3—C2—C1 | 107.7 (5) |
| C3—C2—H2 | 125.9 |
| C1—C2—H2 | 126.4 |
| C2—C3—C4 | 106.7 (6) |
| C2—C3—H3 | 126.7 |
| C4—C3—H3 | 126.7 |
| N1—C4—C5 | 126.4 (5) |
| N1—C4—C3 | 110.1 (5) |
| C5—C4—C3 | 123.5 (5) |
| C4—N1—C1—C5$^{ii}$ | 180.0 |
| Pt1—N1—C1—C5$^{ii}$ | 0.0 |
| C4—N1—C1—C2 | 0.0 |
| Pt1—N1—C1—C2 | 180.0 |
| N1—C1—C2—C3 | 0.0 |
| C5$^{ii}$—C1—C2—C3 | 180.0 |
| C1—C2—C3—C4 | 0.0 |
| C1—N1—C4—C5 | 180.0 |
| Pt1—N1—C4—C5 | 0.0 |
| C1—N1—C4—C3 | 0.0 |
| Pt1—N1—C4—C3 | 180.0 |
| C2—C3—C4—N1 | 0.0 |
| C2—C3—C4—C5 | 180.0 |
| N1—C4—C5—C1$^{i}$ | 0.0 |
| C3—C4—C5—C1$^{i}$ | 180.0 |

| | |
|---|---|
| C7—C8—H8 | 121.0 |
| F1—C9—C8$^{iv}$ | 118.6 (3) |
| F1—C9—C8 | 118.6 (3) |
| C8$^{iv}$—C9—C8 | 122.9 (6) |
| C7—C10—H10A | 109.6 |
| C7—C10—H10B | 109.4 |
| H10A—C10—H10B | 109.5 |
| C7—C10—H10C | 109.3 |
| H10A—C10—H10C | 109.4 |
| H10B—C10—H10C | 109.6 |
| N1—C4—C5—C6 | 180.0 |
| C3—C4—C5—C6 | 0.0 |
| C1$^{i}$—C5—C6—C7$^{iv}$ | –90.8 (5) |
| C4—C5—C6—C7$^{iv}$ | 89.2 (5) |
| C1$^{i}$—C5—C6—C7 | 90.8 (5) |
| C4—C5—C6—C7 | -89.2 (5) |
| C7$^{iv}$—C6—C7—C8 | 0.9 (9) |
| C5—C6—C7—C8 | 179.4 (5) |
| C7$^{iv}$—C6—C7—C10 | –179.3 (4) |
| C5—C6—C7—C10 | -0.8 (8) |
| C6—C7—C8—C9 | -0.7 (8) |
| C10—C7—C8—C9 | 179.5 (5) |
| C7—C8—C9—F1 | –179.8 (6) |
| C7—C8—C9—C8$^{iv}$ | 0.6 (11) |

Symmetry code(s): (i) *y*, –*x* + 1, – *z* + 1; (ii) –*y* + 1, *x*, *z*; (iii) –*x* + 1, –*y* + 1, –*z* + 1; (iv) *x*, *y*, –*z* + 1.

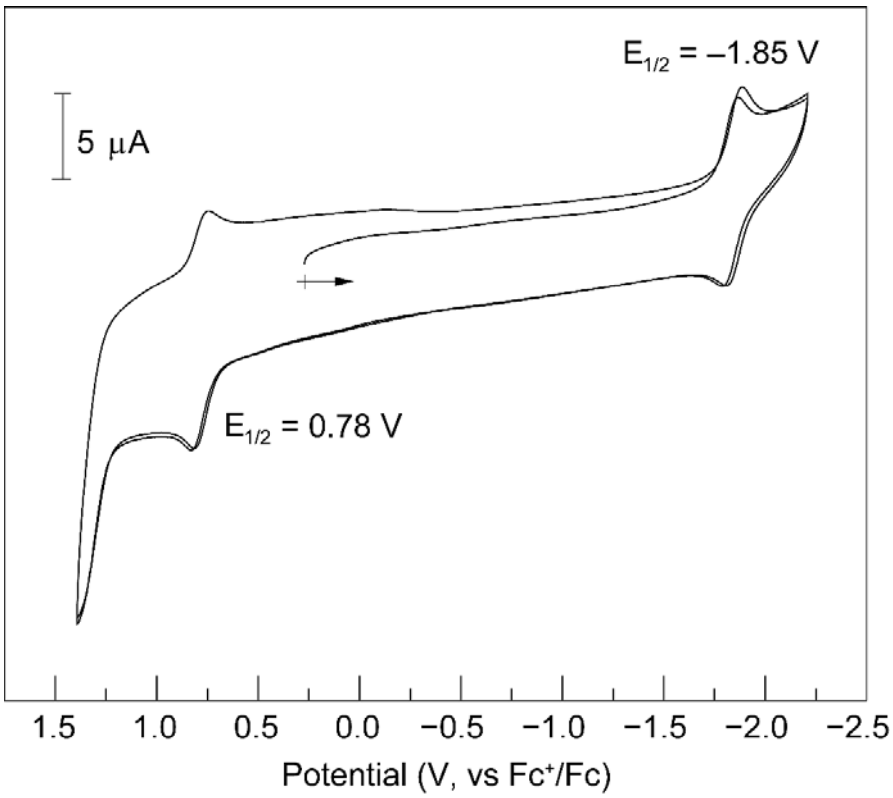



**Figure S9.** Cyclic voltammogram of **Pt(II)TFP**, 0.1 M $TBAPF_6$ in $CH_2Cl_2$, 100 mV/s, in $N_2$ filled glovebox.