

Supplementary information

Control of excimer phosphorescence by steric effects in cyclometalated platinum(II) diketonate complexes bearing peripheral carbazole moieties towards application to non-doped white OLED

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- **Fig. S1** PL spectra of PMMA films doped with **Pt-1** and **Pt-2**.
- **Fig. S2** Phosphorescence spectra of **Pt-1**, **Pt-2**, and **Pt-core**.
- **Fig. S3** Cyclic voltammograms of **Pt-core** and **Dn-2**.
- **Fig. S4** Frontier orbitals of **Pt-1a**.
- **Fig. S5–S12** NMR spectra of the novel compounds.

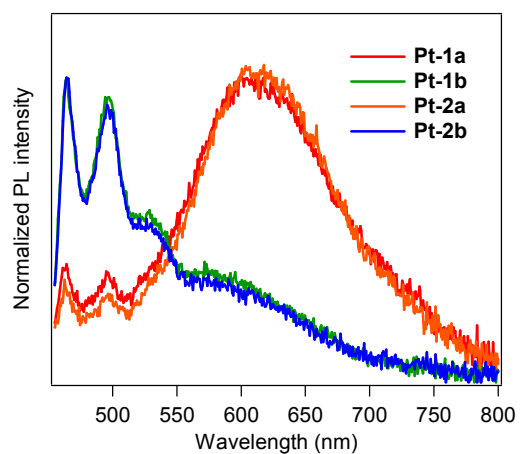


Fig. S1 PL spectra of PMMA films doped with **Pt-1** and **Pt-2** (0.10 mmol g^{-1}) under a nitrogen atmosphere.

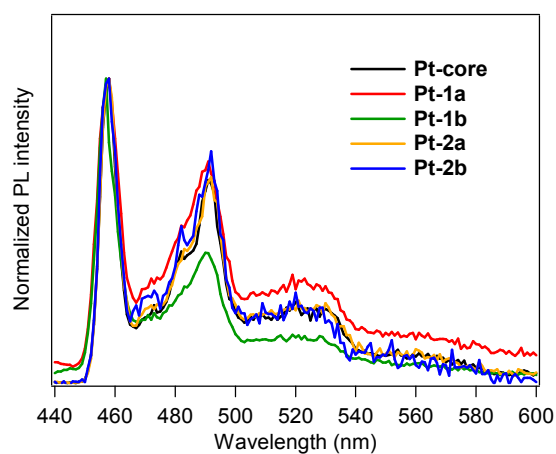


Fig. S2 Phosphorescence spectra of **Pt-1**, **Pt-2**, and **Pt-core** in deaerated 2-methyl-tetrahydrofuran glassy matrices ($10 \text{ }\mu\text{M}$) at 77 K (delay time; $10 \text{ }\mu\text{s}$).

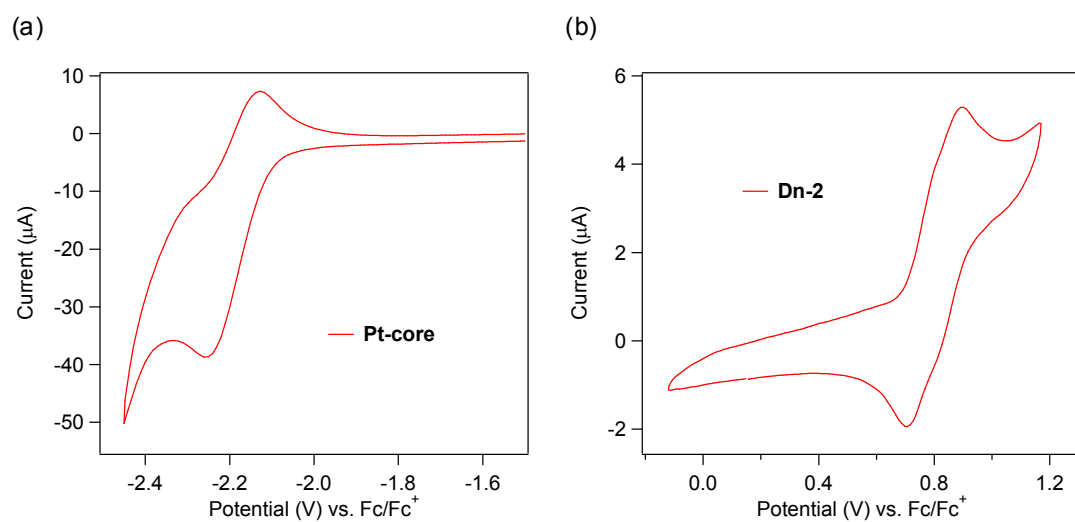


Fig. S3 Cyclic voltammograms of (a) **Pt-core** in deaerated dry *N,N*-dimethylformamide (5.0 mM) with 0.10 M tetrabutylammonium perchlorate (TBAP) and (b) **Dn-2** in dry dichloromethane (0.50 mM) with 0.10 M TBAP. The scan rates were 500 mV s⁻¹ and 100 mV s⁻¹, respectively.

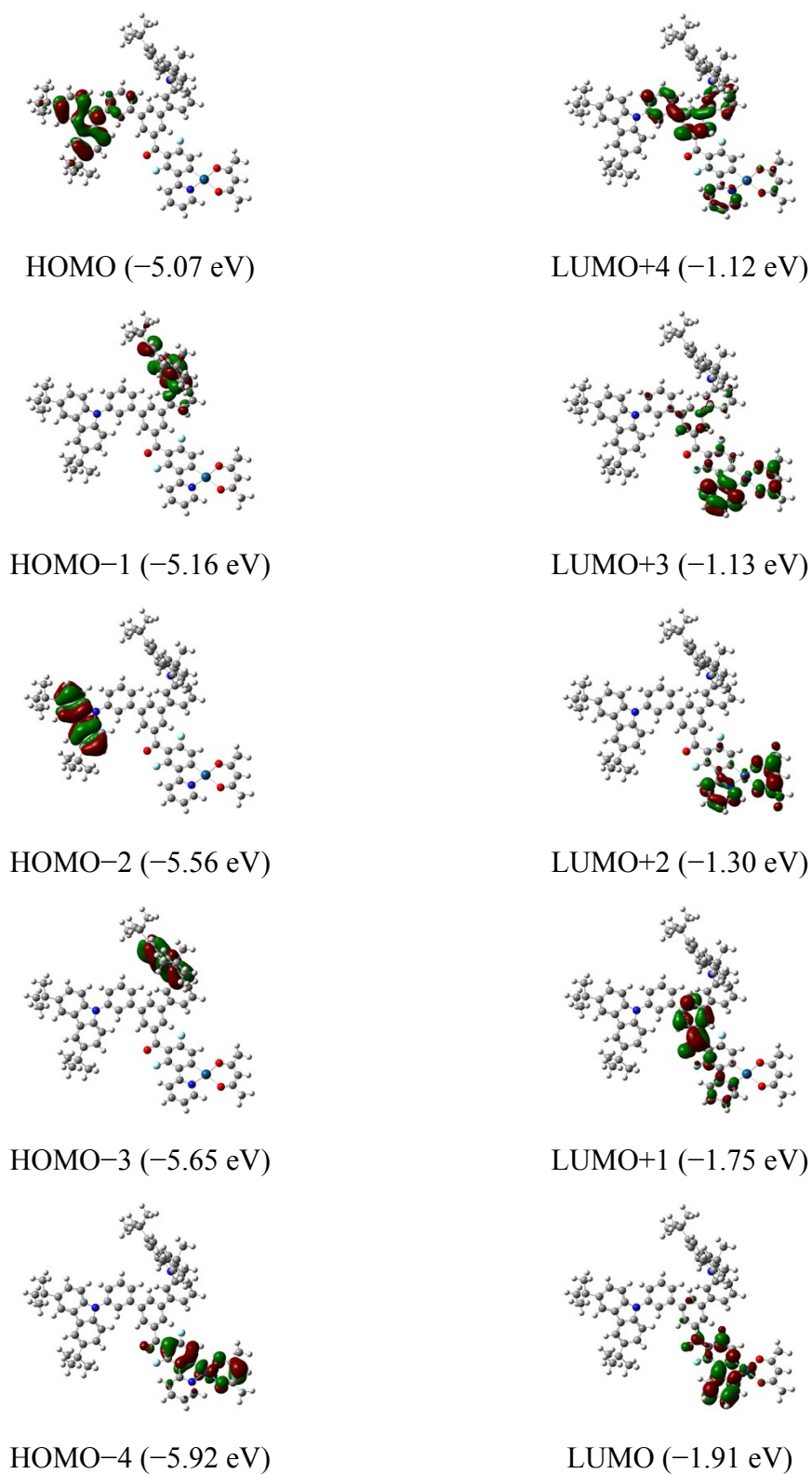


Fig. S4 Frontier orbitals of **Pt-1a** optimized at the level of B3LYP/LANL2DZ (Pt) and 6-31G(d) (C, H, N, O and F).

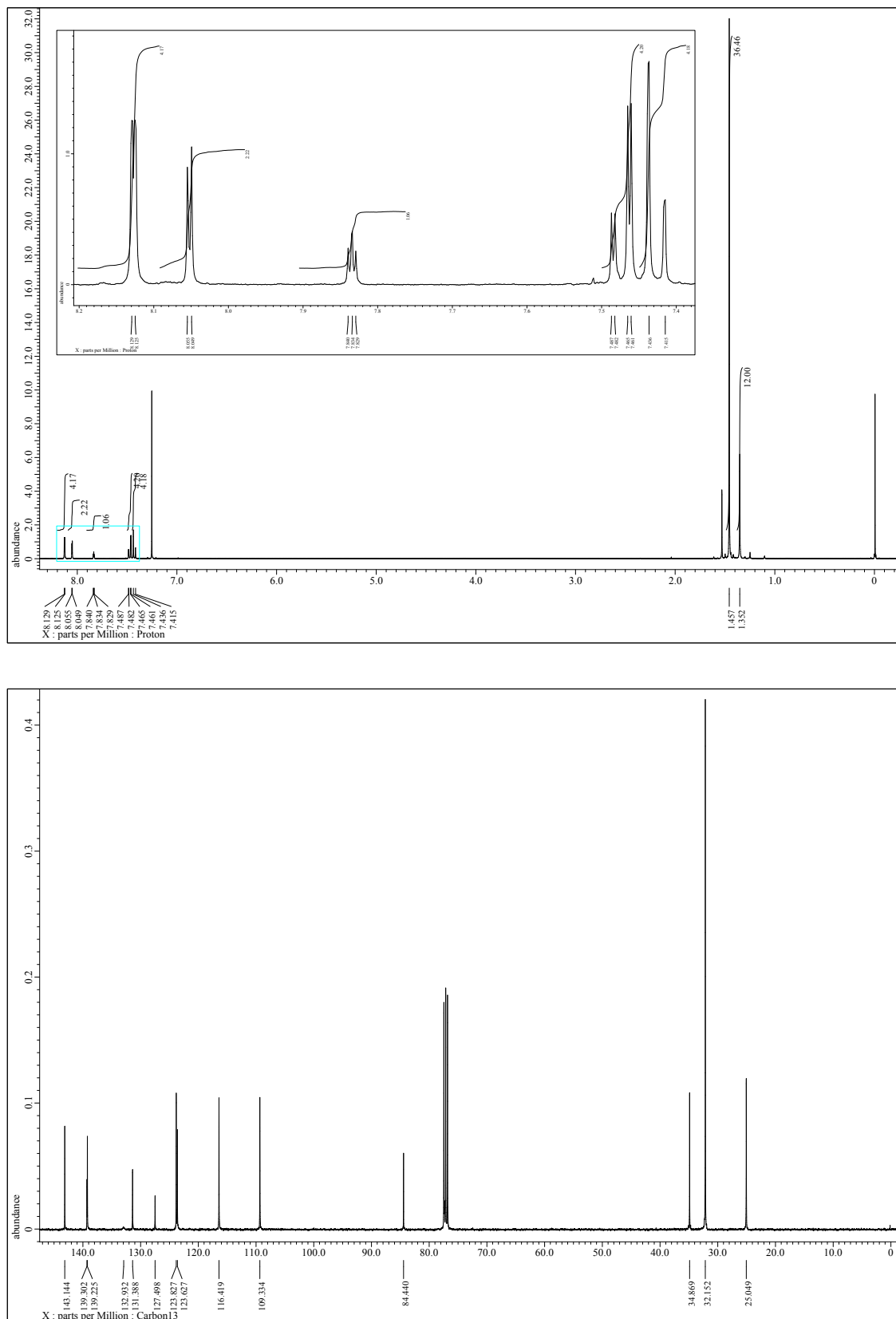


Fig. S6 ¹H (upper) and ¹³C (lower) NMR spectra of **3** in CDCl₃.

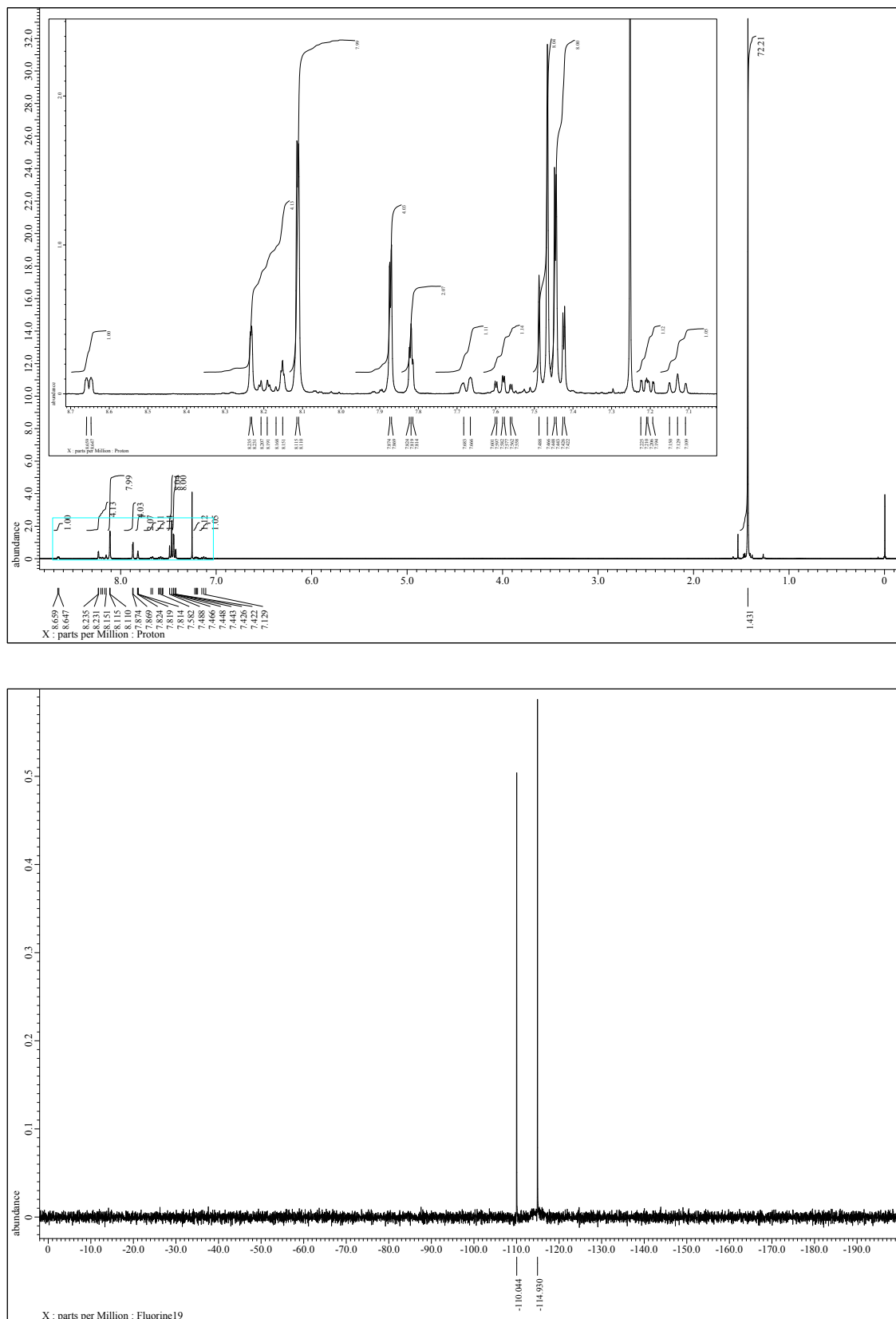


Fig. S7 ^1H (upper) and ^{19}F (lower) NMR spectra of **HC^N-2** in CDCl_3 .

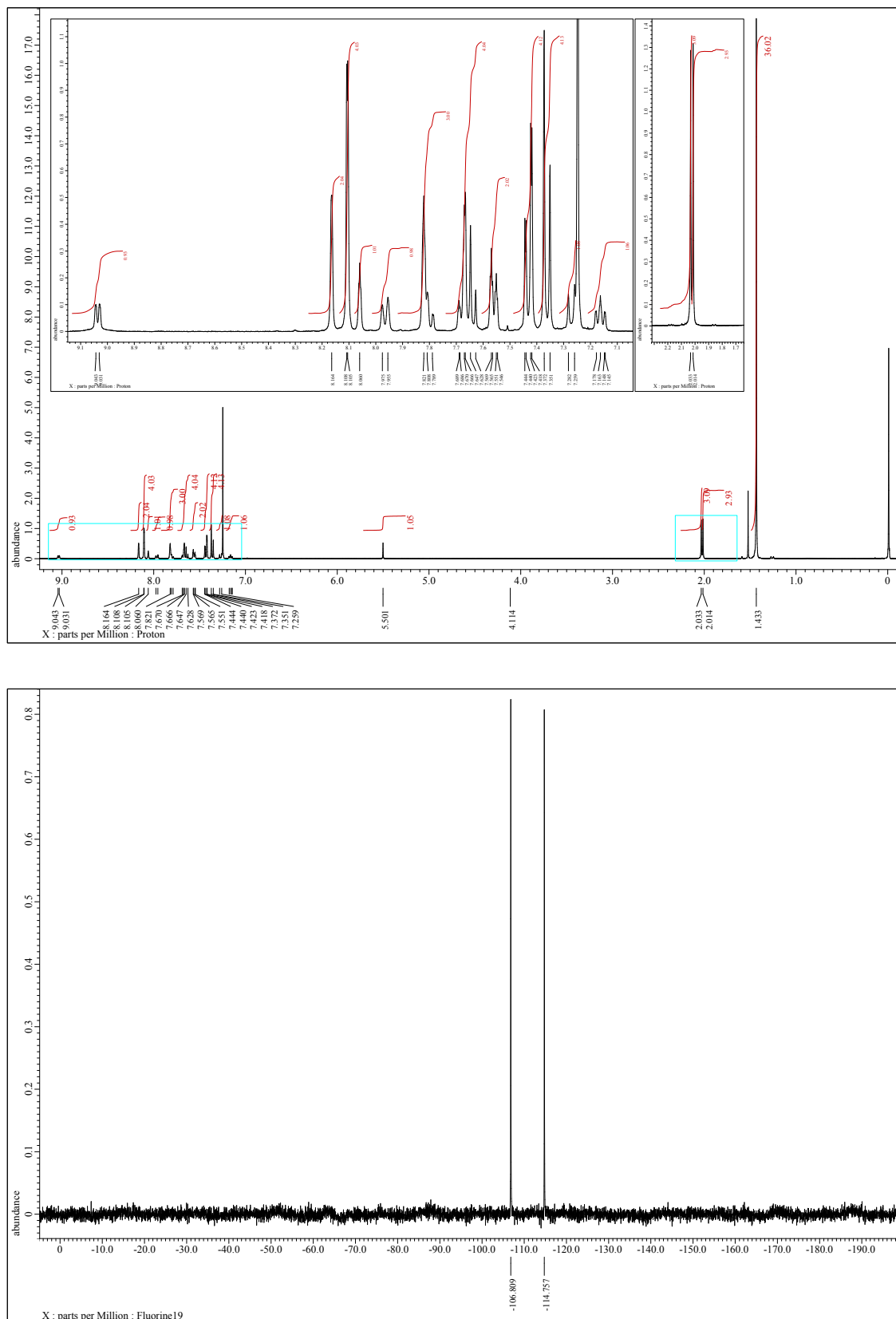


Fig. S8 ^1H (upper) and ^{19}F (lower) NMR spectra of **Pt-1a** in CDCl_3 .

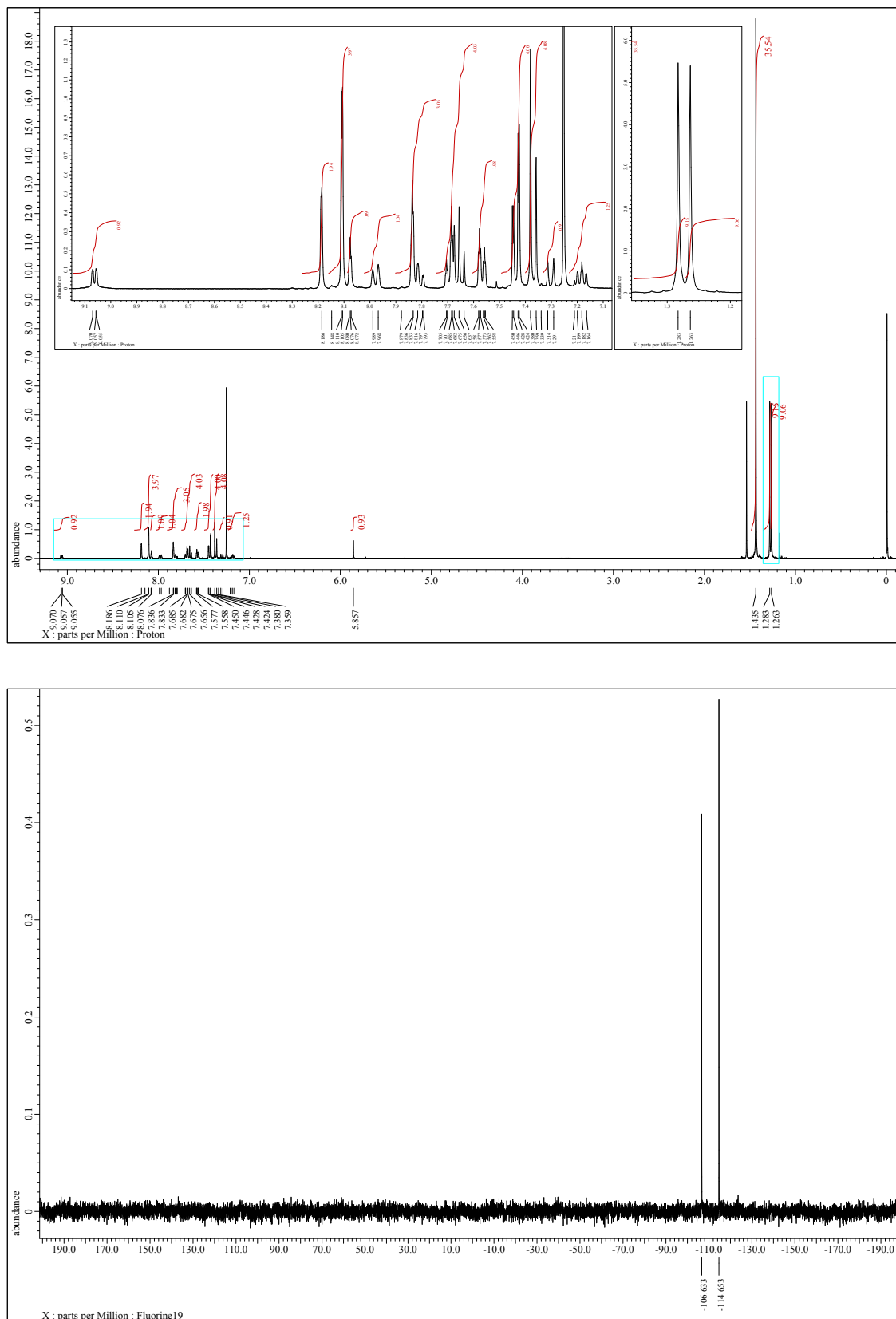


Fig. S9 ^1H (upper) and ^{19}F (lower) NMR spectra of **Pt-1b** in CDCl_3 .



Fig. S10 ^1H (upper) and ^{19}F (lower) NMR spectra of **Pt-2a** in CDCl_3 .

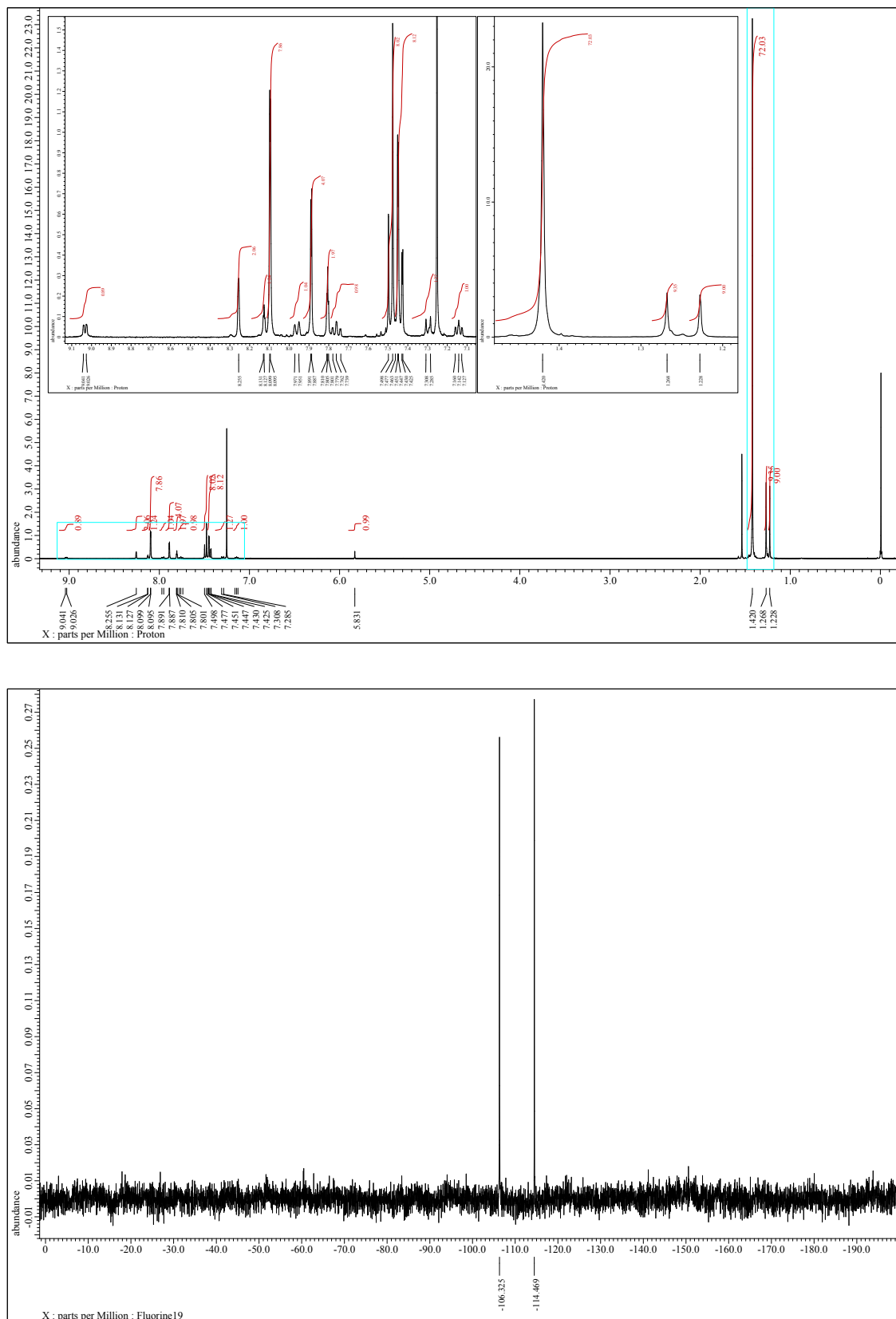


Fig. S11 ^1H (upper) and ^{19}F (lower) NMR spectra of **Pt-2b** in CDCl_3 .

