Synthesis, Physical Properties, and Light-Emitting Diode Performance of Phenazine-Based Derivatives with Three, Five and Nine Fused Six-Membered Rings

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General Information

The fluorescent quantum yields (QYs) in the solution were determined using quinine bisulfate (Φ_F = 0.54 in 0.1 mol L^{-1} H_2SO_4) using the equation:

$$\phi_r = \frac{F_r}{F_s}\frac{A_s}{A_r}\phi_s \qquad (1)$$

In this equation, subscripts s and r represent the sample and reference, respectively. F is the integral area of the fluorescence spectra, A is the absorbance, ϕ is the fluorescence quantum yield.

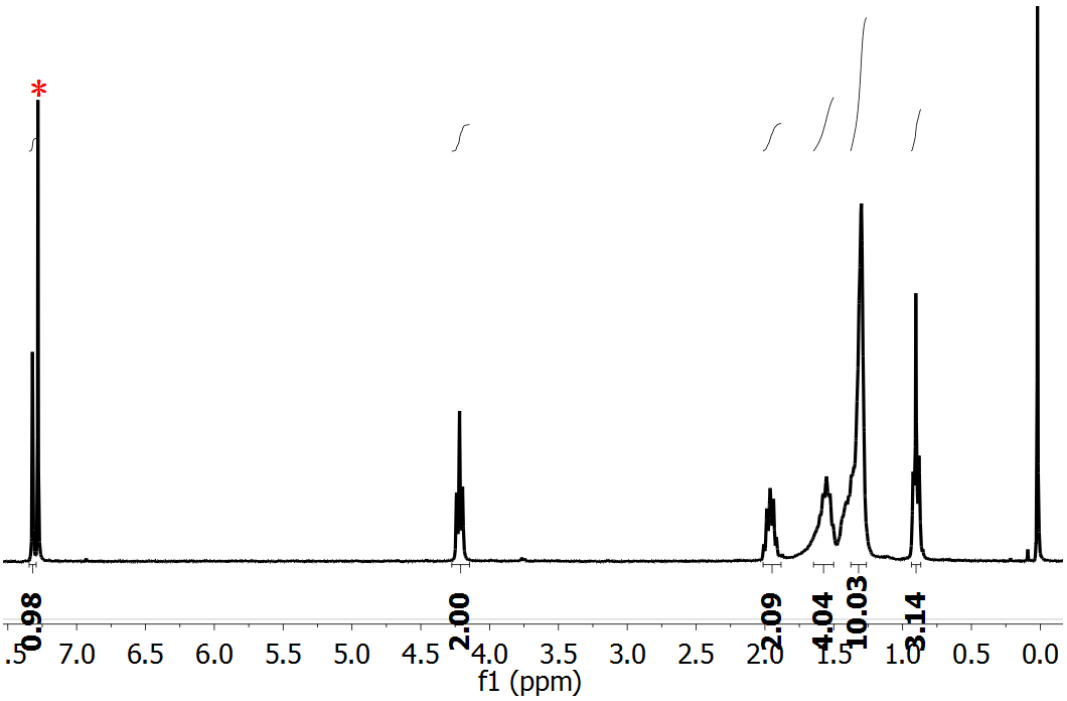


Figure S1 ^{1}H NMR spectrum of **2a** in $CDCl_3$.

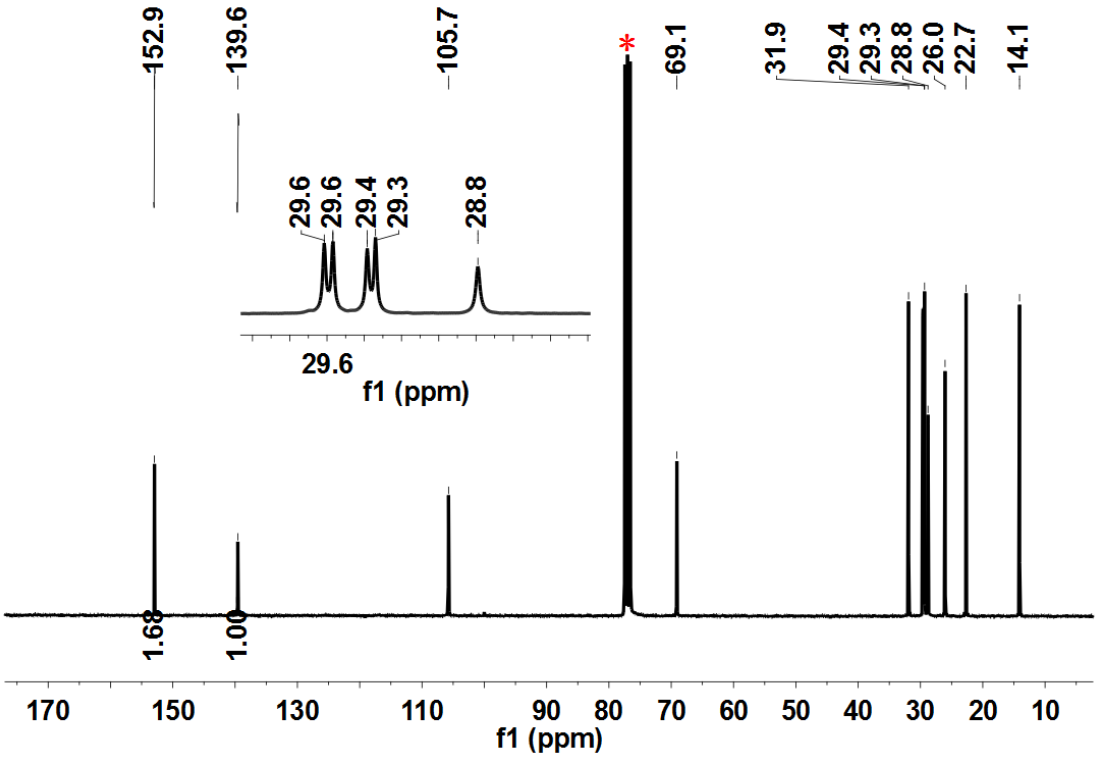


Figure S2 ^{13}C NMR spectrum of **2a** in $CDCl_3$.

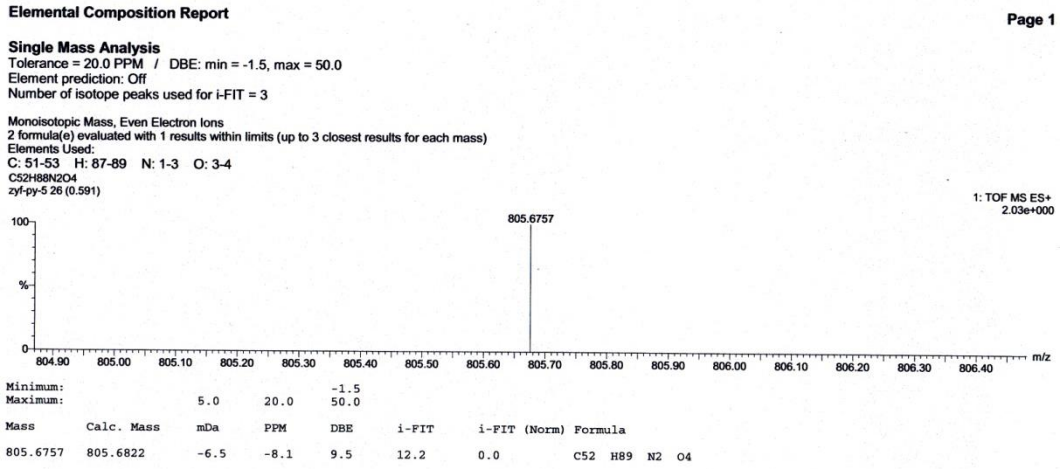


Figure S3 HRMS spectrum of **2a**

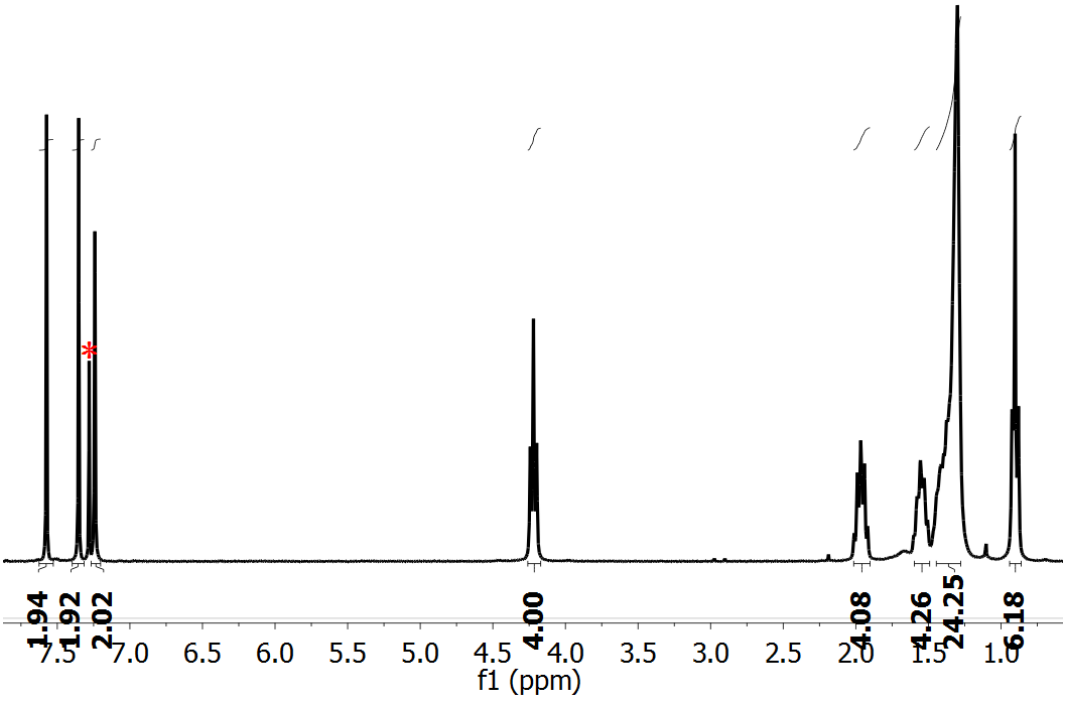


Figure S4 ^{1}H NMR spectrum of **2b** in $CDCl_3$.

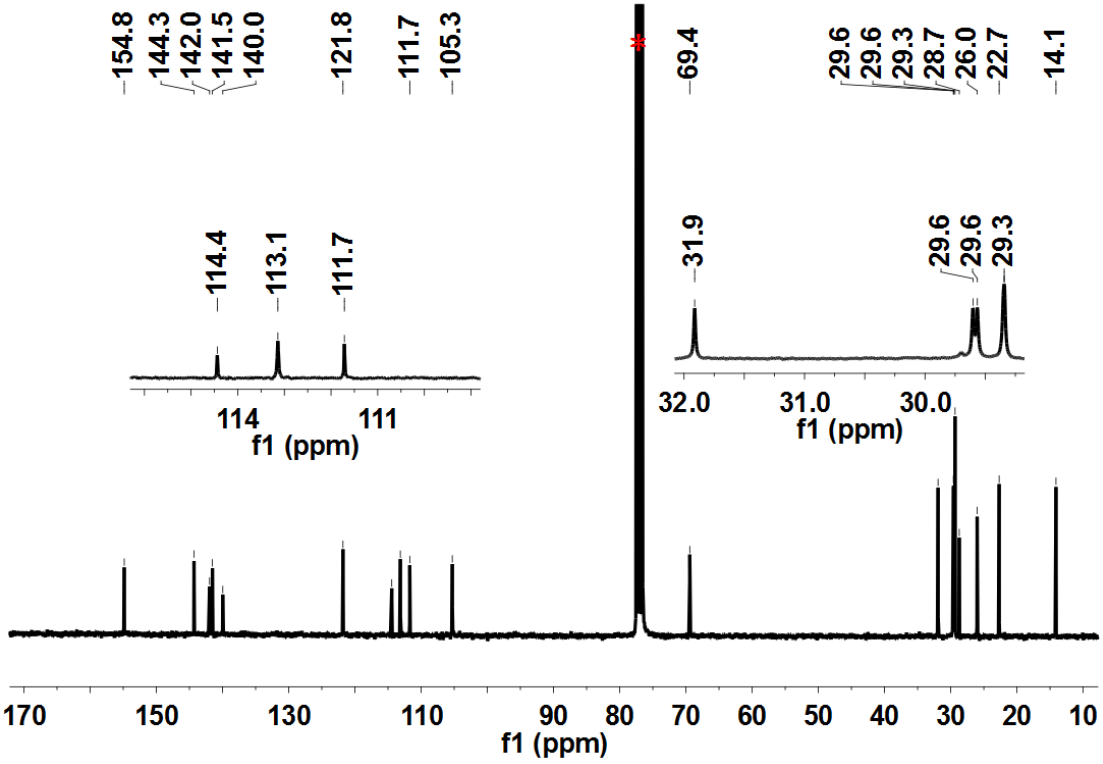


Figure S5 ^{13}C NMR spectrum of **2b** in $CDCl_3$.

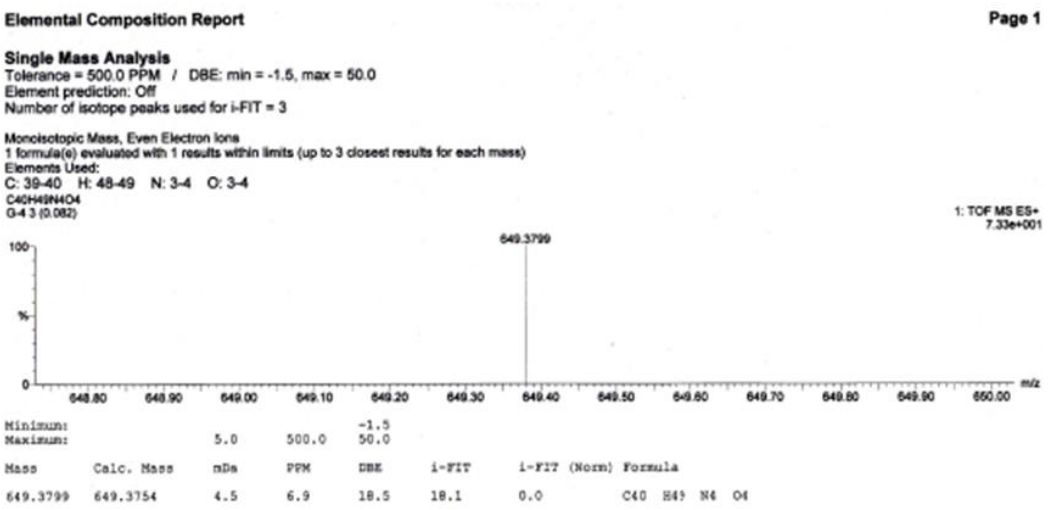


Figure S6 HRMS spectrum of **2b**.

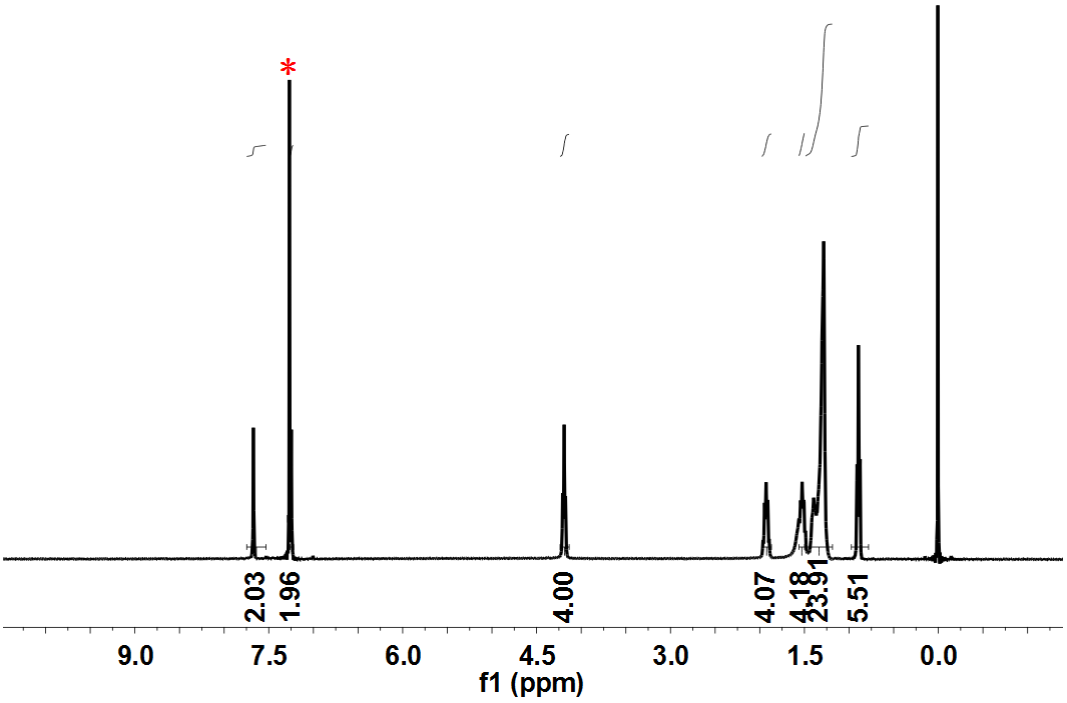


Figure S7 ^{1}H NMR spectrum of **2c** in $CDCl_3$.

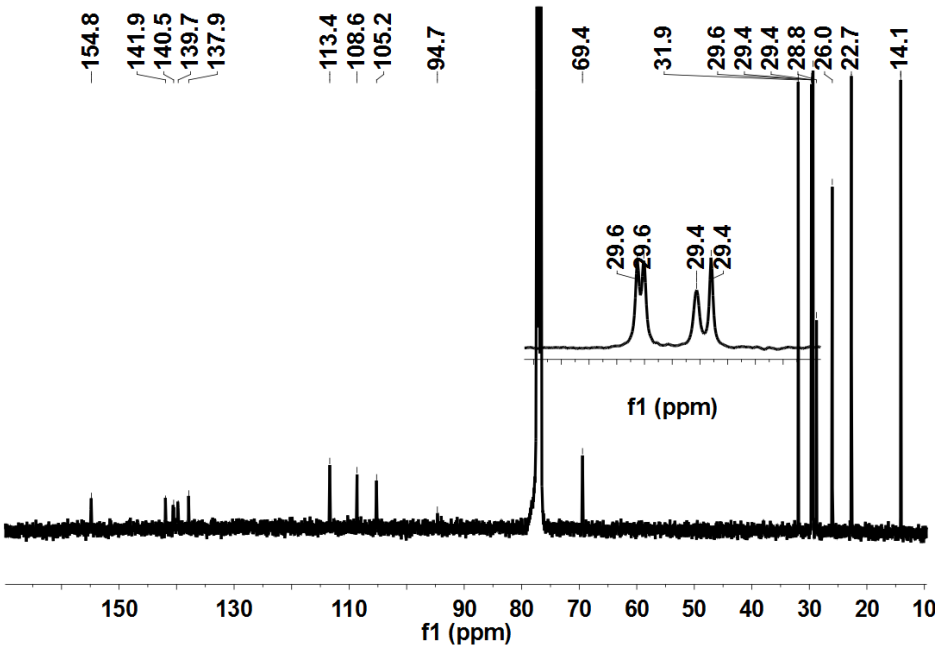


Figure S8 ^{13}C NMR spectrum of **2c** in $CDCl_3$

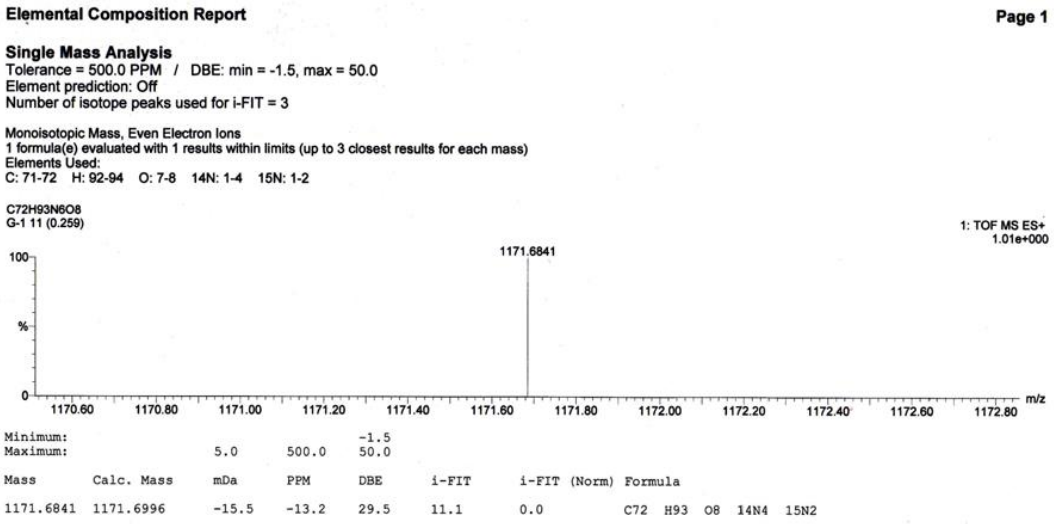


Figure S9 MS spectrum of **2c**.

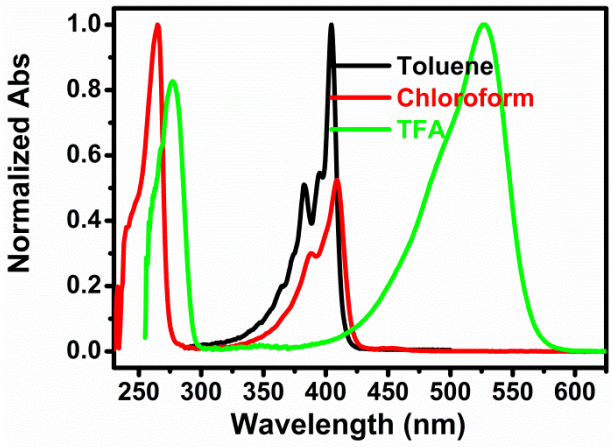


Figure S10 Normalized absorption spectra of **2a** recorded in different solvents.

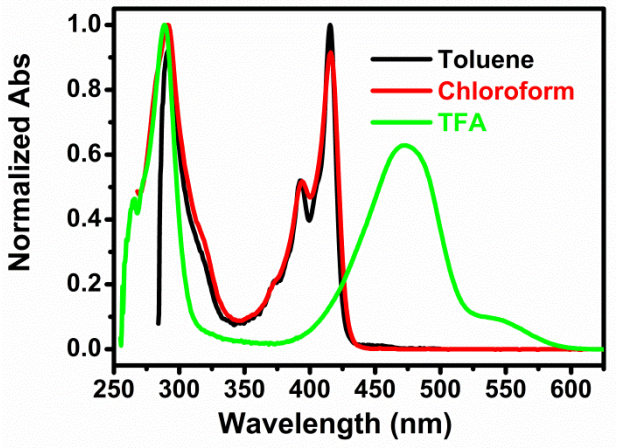


Figure S11 Normalized absorption spectra of **2b** recorded in different solvents.

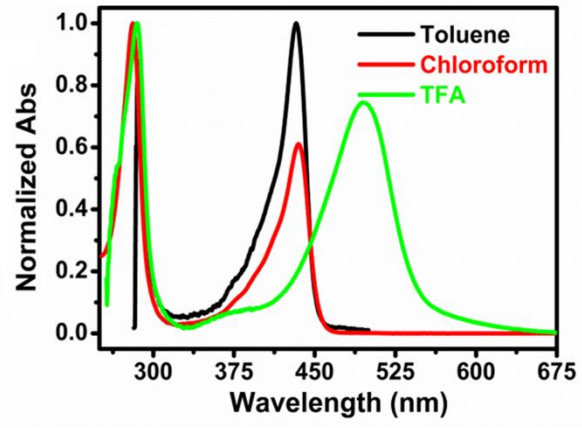


Figure S12 Normalized absorption spectra of **2c** recorded in different solvents.

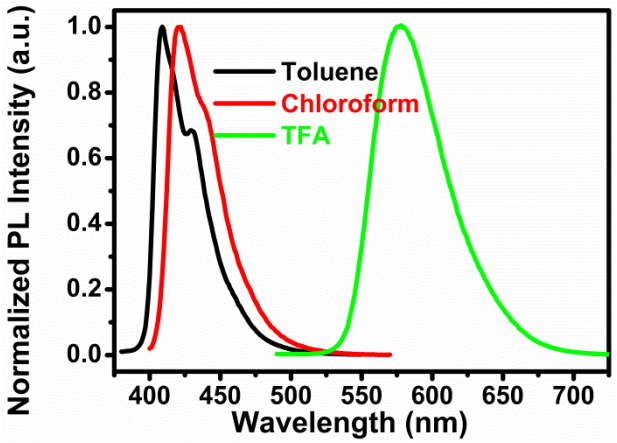


Figure S13 Normalized PL spectra of **2a** recorded in different solvents.

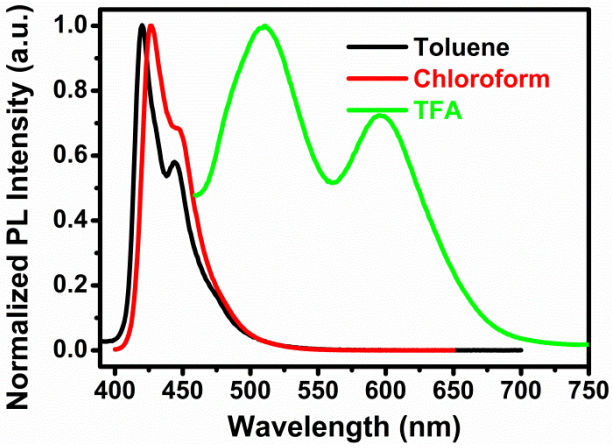


Figure S14 Normalized PL spectra of **2b** recorded in different solvents.

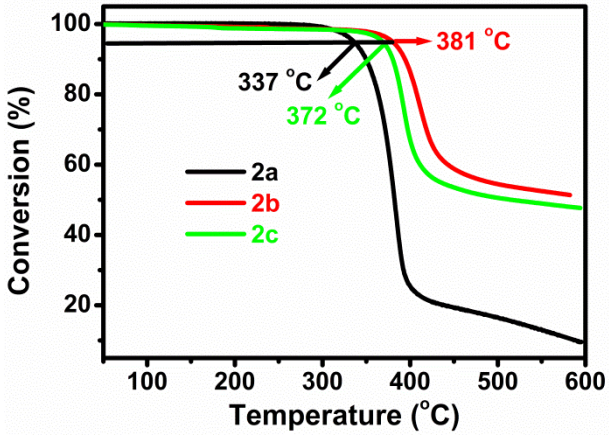


Figure S15 TGA curves of **2a**, **2b**, and **2c** with a heating rate of 20 ^{o}C min^{-1} under N_2

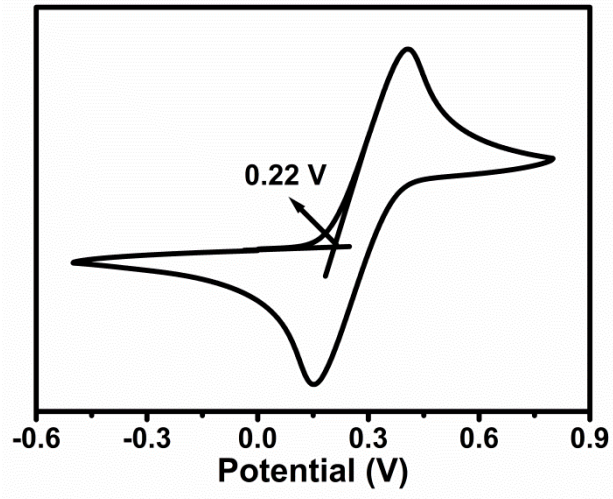
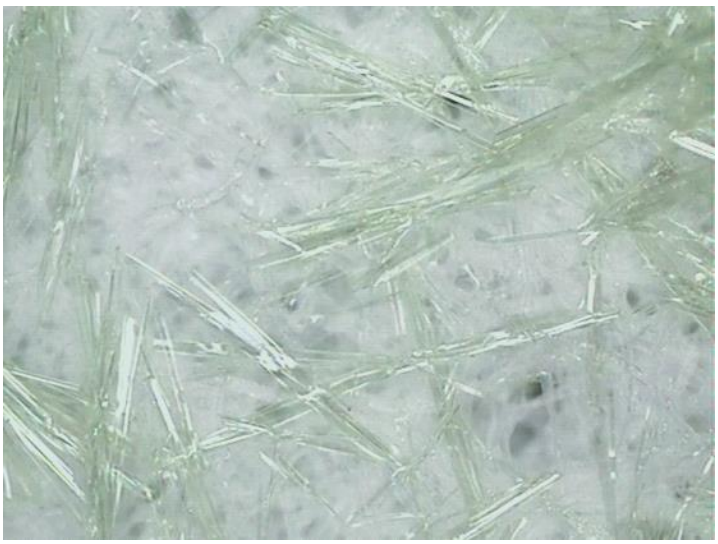


Figure S16 Cyclic voltammogram of the ferrocene standard in CH_2Cl_2 solution at the scan rate of 100 mV S^{-1}.



(A)

(B)

(C)

Figure S17 The crystal images of compounds **2a** (A), **2b** (B), and **2c** (C)