Highly Efficient Blue Host Compound Based on an Anthracene Moiety for OLEDs

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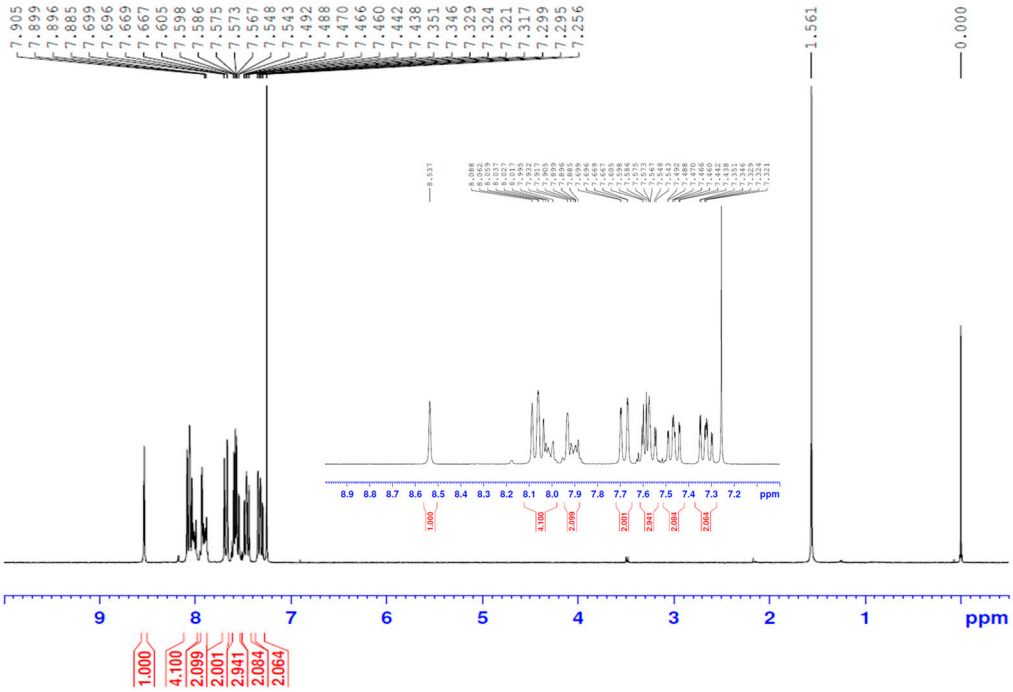


Figure S1. ^{1}H-NMR spectrum of compound (1).

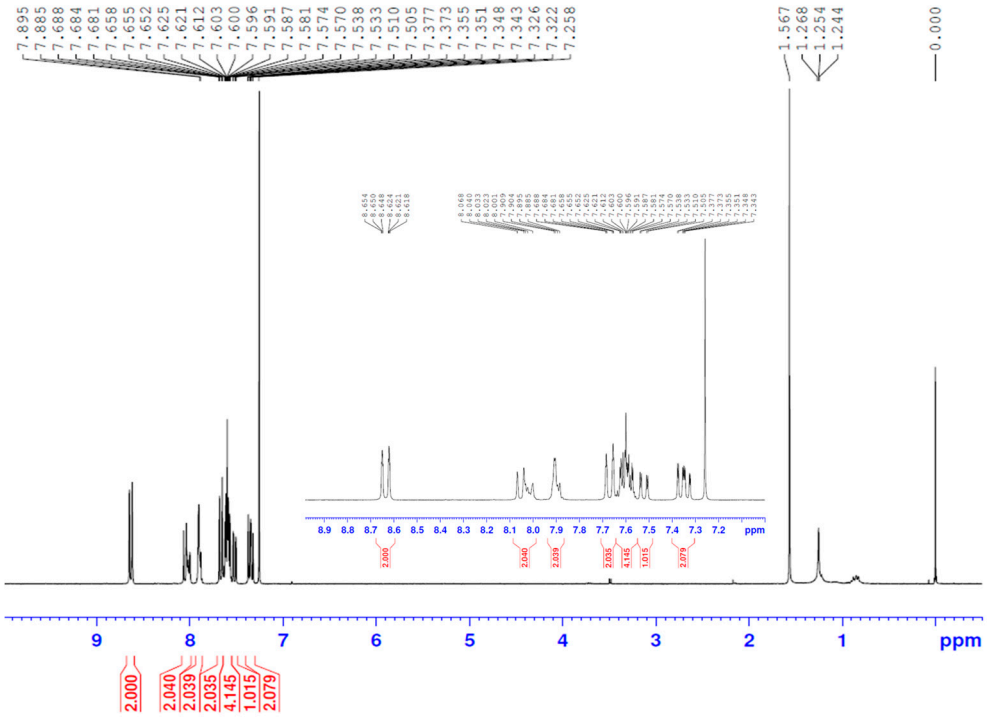


Figure S2. ^{1}H-NMR spectrum of compound (2).

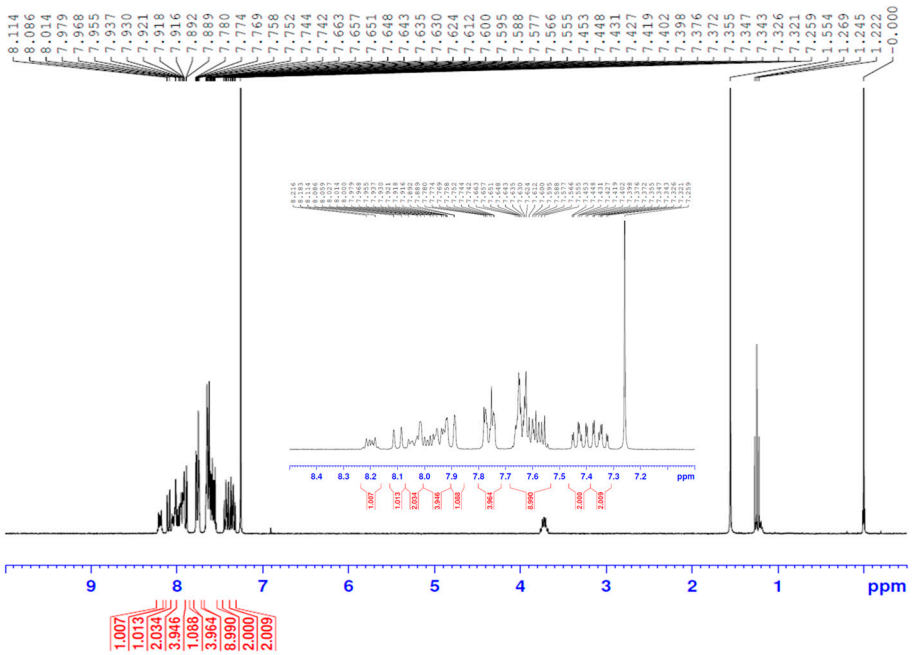


Figure S3. ^{1}H-NMR spectrum of 2-NaAn-1PNa.

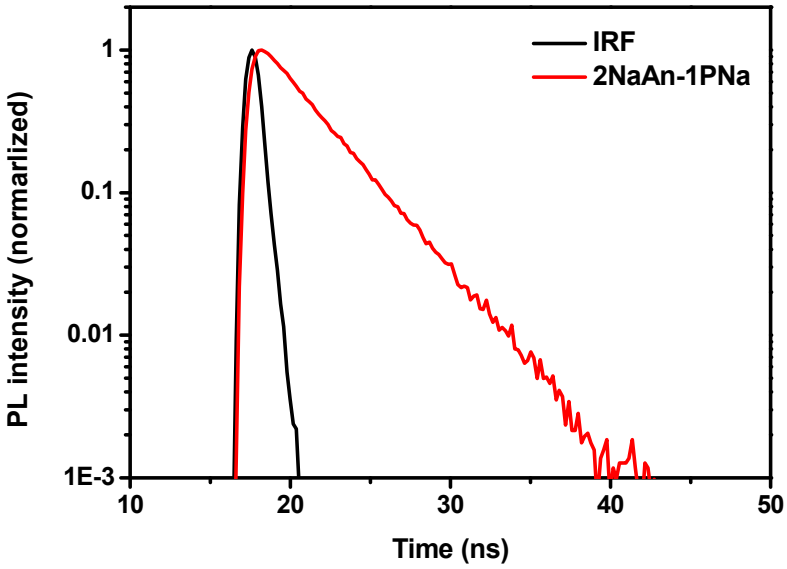


Figure S4 Transient PL spectrum of 2-NaAn-1-PNa in solution state (10^{-5} M in toluene).

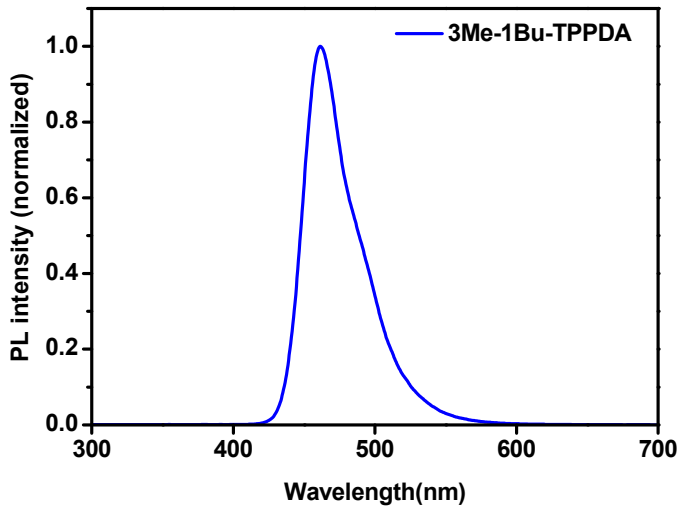


Figure S5 PL spectrum of 3Me-1Bu-TPPDA in solution state (10^{-5} M in toluene).

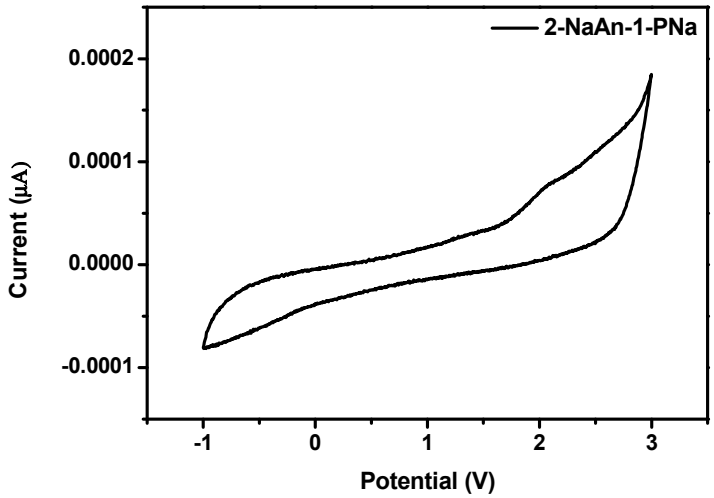


Figure S6 Cyclic voltammograms under 100 mV/s of 2-NaAn-1-PNa [0.1 M TBAP-F6 in dichloromethane reference electrode: Ag/AgCl].

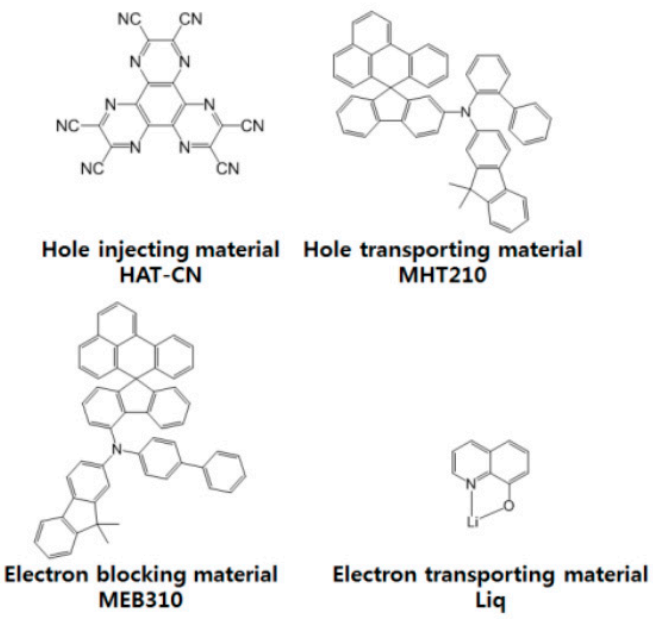


Figure S7 Chemical structures of materials used for OLED devices fabrication.

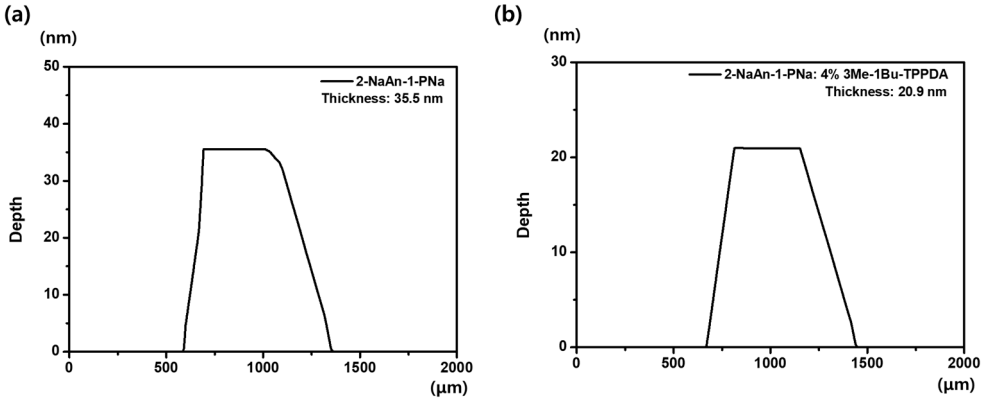


Figure S8 Thickness profile images (a) 2-NaAn-1-PNa evaporated film (thickness: 35 nm), (b) 2-NaAn-1-PNa: 4% 3Me-1Bu-TPPDA evaporated film (thickness: 20 nm).

Table S1. Photophysical properties of the synthesized compound.

Materials	τ_F (ns)[a]	k_{rad}[b] x 10^8/s	k_{nr}[b] x 10^7/s	k_{rad}/k_{nr}
2-NaAn-1-PNa	2.99	2.44	9.04	2.69

[a] Solution state. [b] Values of k_{rad} and k_{nr} were calculated according to the equations $k_{rad} = \Phi_F/\tau_F$ and $k_{nr} = (1/\tau_F) - k_{rad.}$

Table S2. Thermal properties of the synthesized materials.

Materials	T_g[a] (℃)	T_m[b] (℃)	T_d[c] (℃)
2-NaAn-1-PNa	134	248	391

[a] Glass transition temperature. [b] Melting temperature. [c] Decomposition temperature at 5% weight loss.