Supporting Information

Solution-Processable Iridium Phosphors for Efficient Red and White Organic Light-Emitting Diodes with Low Roll-Off

Ya-Li Deng, Lin-Song Cui, Yuan Liu, Zhao-Kui Wang,* Zuo-Quan Jiang, and Liang-Sheng Liao*

Jiangsu Key Laboratory for Carbon-Based Functional Materials & Devices, Institute of Functional Nano & Soft Materials (FUNSOM), and Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou, Jiangsu 215123, China

Address all correspondence to the authors. Email: lsliao@suda.edu.cn; zkwang@suda.edu.cn
S1. UPS spectrum of Ir(dmppm)$_2$(dmd)
$^1$H NMR (400 MHz, CDCl$_3$) $\delta$ (ppm): 8.88 (s, 2H) 8.10 (s, 2H) 7.83-7.73 (m, 5H, $J=8.0$ Hz,) 7.56 (s, 2H) 6.66 (s, 3H) 5.19 (s, H) 2.48-2.16 (m, 24H) 1.61-1.46 (m, 14H). $^{13}$C NMR (100 MHz, CDCl$_3$) $\delta$ (ppm): 193.2, 175.2, 157.7, 146.6, 145.7, 144.4, 138.6, 136.2, 133.6, 132.6, 130.4, 125.2, 125.00, 109.08, 39.44, 23.80, 21.42, 20.77, 20.22, 19.83. MS (MALDI-TOF): m/z 922.54 [M$^+$. Anal. calcd for C$_{37}$H$_{29}$IrN$_4$O$_2$ (%): C 63.82, H 5.79, N 6.08; found: C 63.74, H 5.82, N 6.05.

S2. $^1$H NMR of Ir(dmppm)$_2$(dmd).
S3. $^{13}$C NMR of Ir(dmppm)$_2$(dmd).
S4. LE and PE characteristics of the red device based on Ir(dmppm)$_2$(dmd) with different doping ratios,

device structure: ITO/PEDOT:PSS (40 nm)/TCTA: x wt% Ir(dmppm)$_2$(dmd) (45 nm)/TPBI (40

nm)/Liq(2nm)/Al (120 nm).