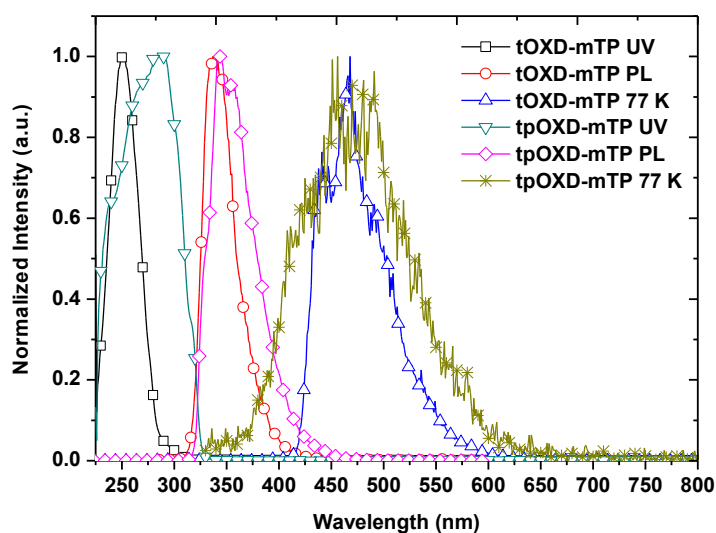# Supplementary data

Synthesis and physical properties of *meta*-terphenyloxadiazole derivatives and the application as electron transporting materials for blue phosphorescent and fluorescent devices†

Cheng-An Wu,[ab] Ho-Hsiu Chou,[a] Cheng-Hung Shih,[a] Fang-Iy Wu,[a] and Chien-Hong Cheng,*[a] Heh-Lung Huang,[b] Teng-Chih Chao,[b] Mei-Rurng Tseng[b]
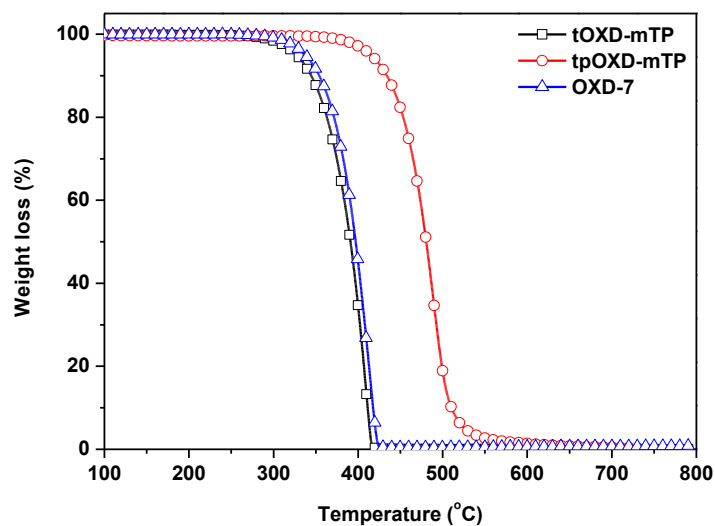
[a]*Department of Chemistry, National Tsing Hua University, Hsinchu 30013, Taiwan,*
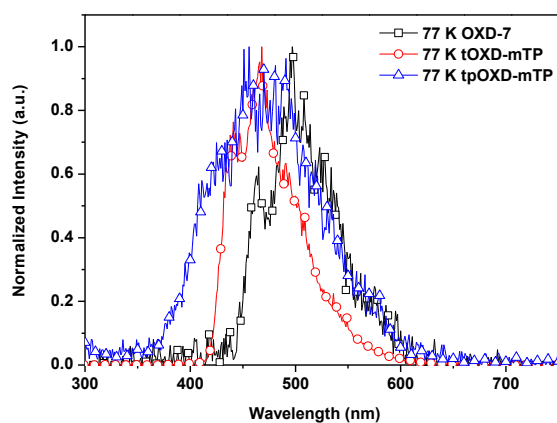*E-mail: chcheng@mx.nthu.edu.tw, Fax: 886-3-572469, Tel: 886-3-5721454*
[b]*Material and Chemical Research Laboratories, Industrial Technology Research Institute, Chutung, Hsinchu 31040, Taiwan*

Fig. S1. The UV-vis absorption and fluorescence spectra (1×10^{-5} M) measured in dichloromethane solution at room temperature.

Fig. S2. The TGA traces of tOXD-*m*TP, tpOXD-*m*TP and OXD-7 recorded at a heating rate of 10 ℃ min^{-1}.

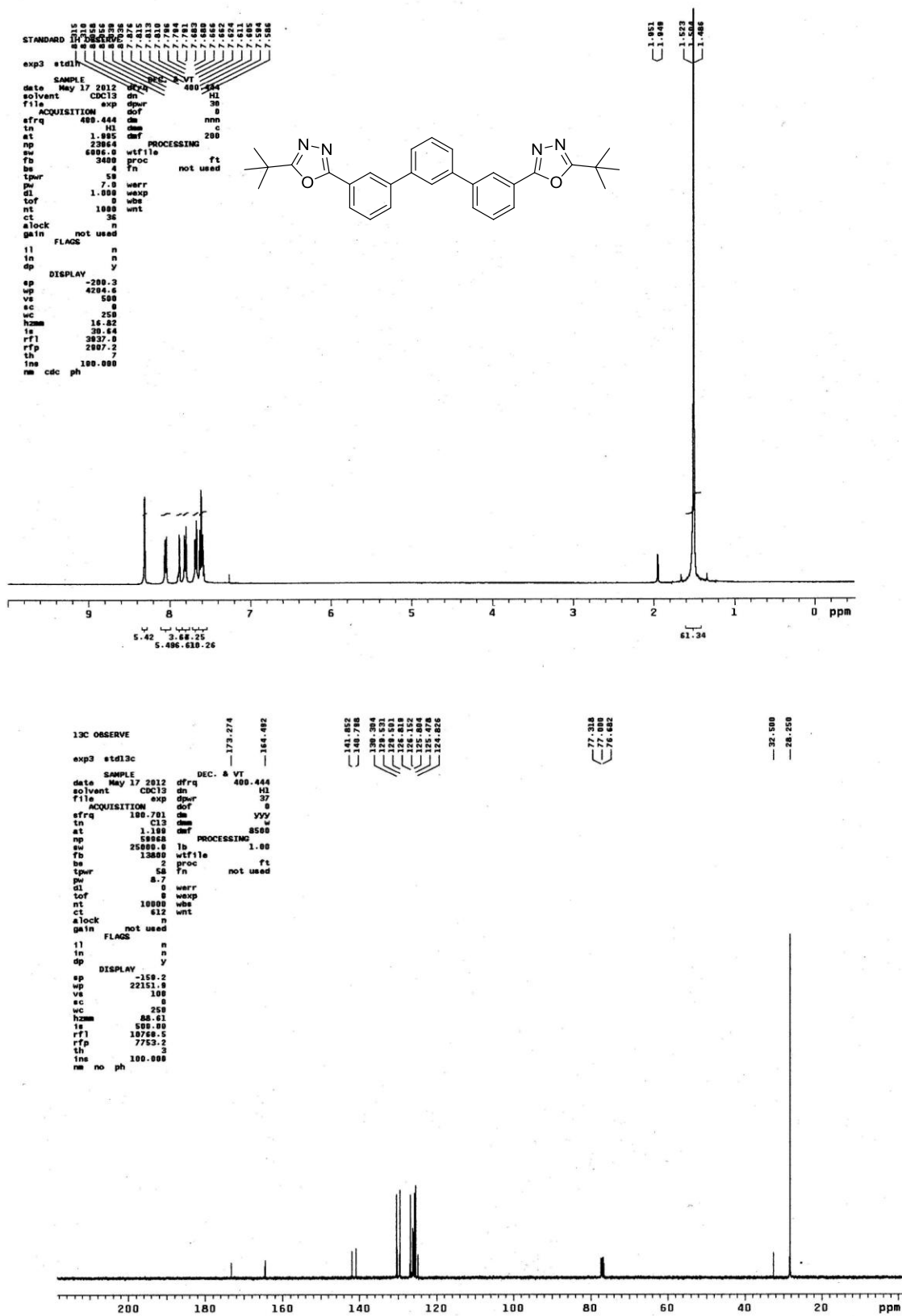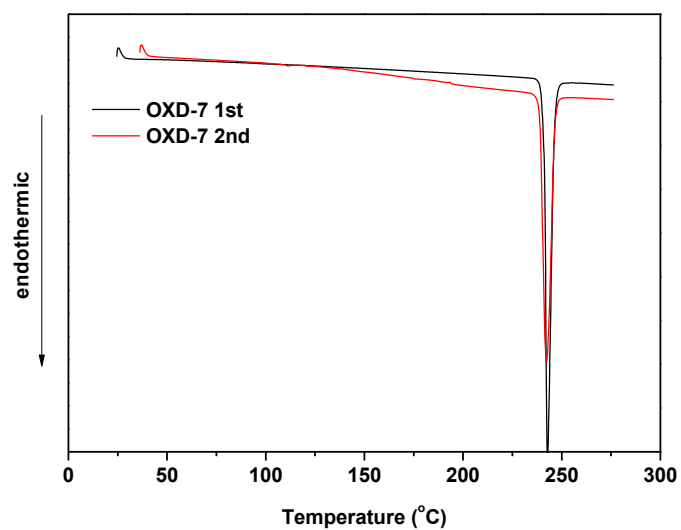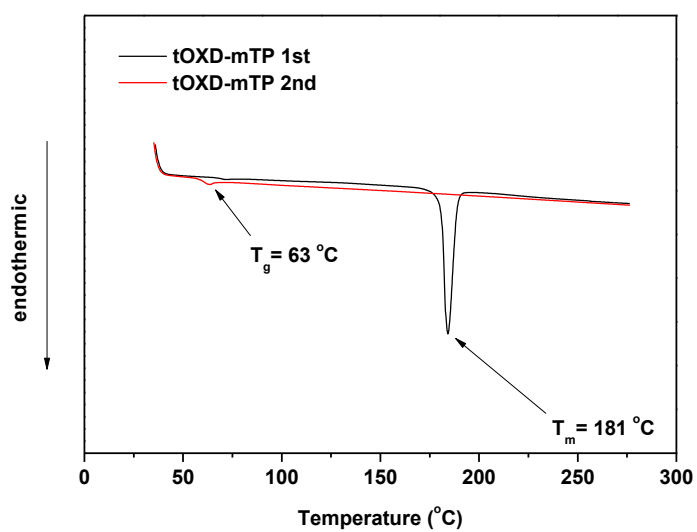**Fig. S3.** The phosphorescence spectra at 77 K in 2-methyltetrahydrofuran.

Fig. S4. The ^{1}H, ^{13}C-NMR spectra of tOXD-*m*TP.

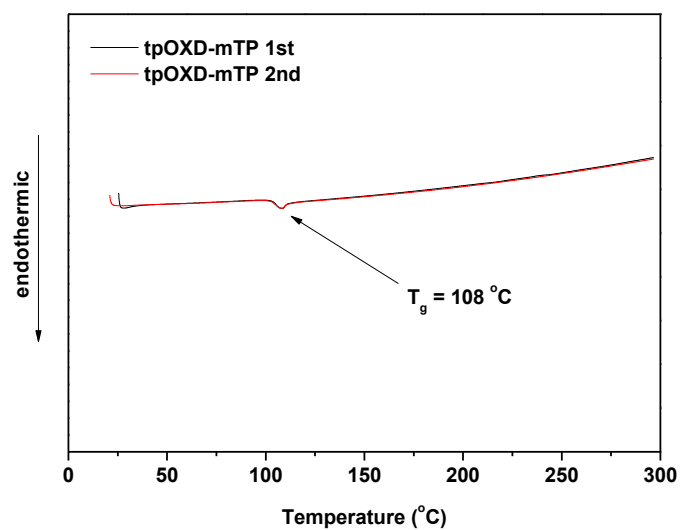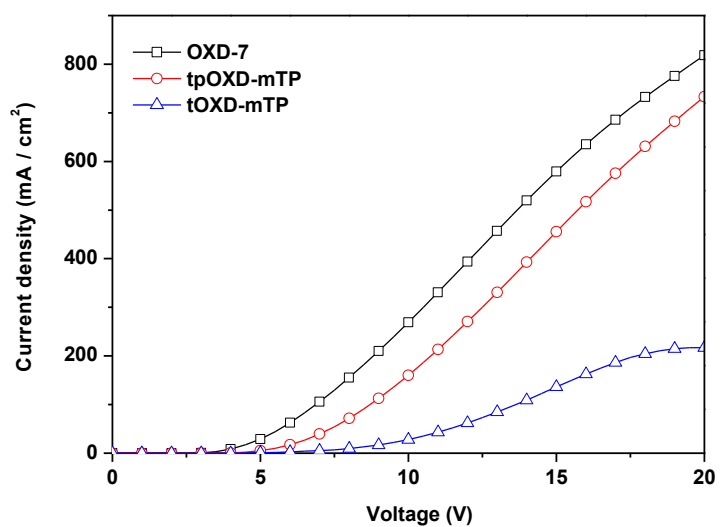**Fig. S5.** The ^{1}H, ^{13}C-NMR spectra of tpOXD-*m*TP.
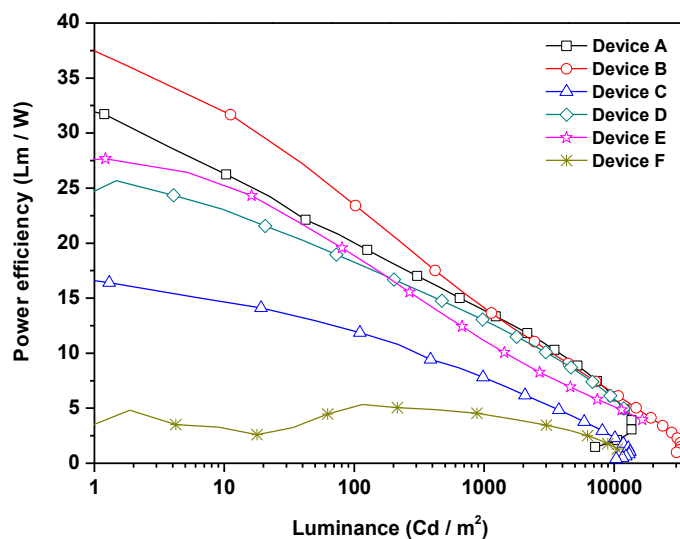
Fig. S6. The DSC spectra of OXD-7.

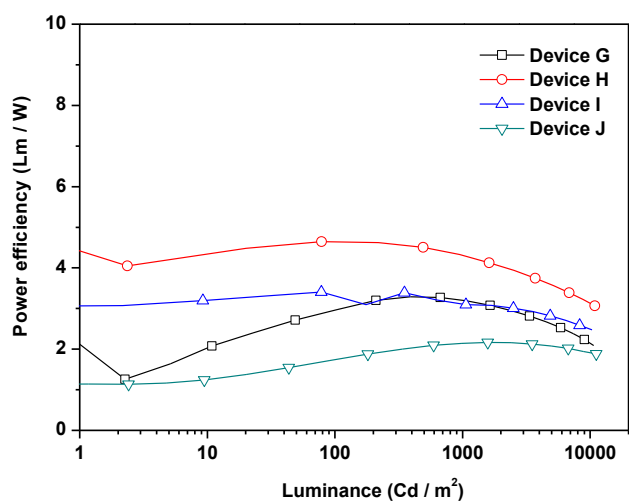**Fig. S7.** The DSC spectra of tOXD-mTP.
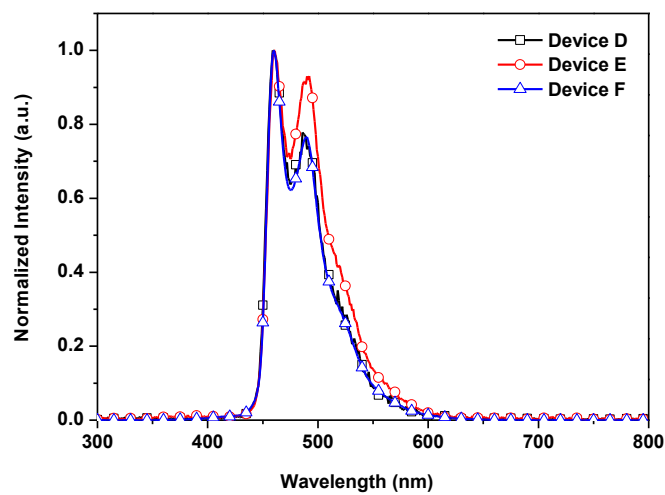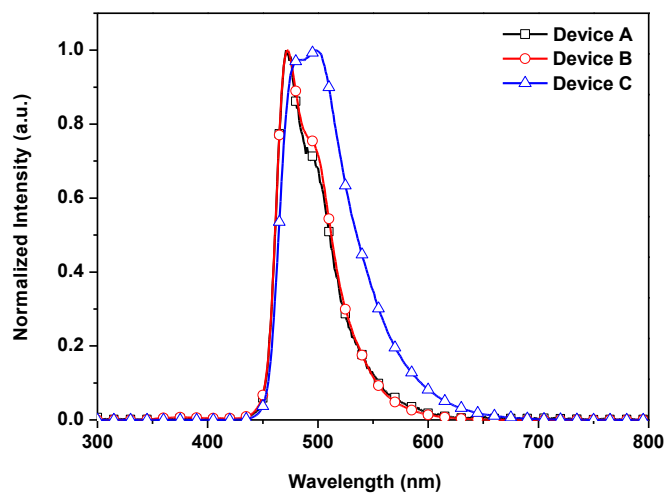
Fig. S8. The DSC spectra of tpOXD-mTP.

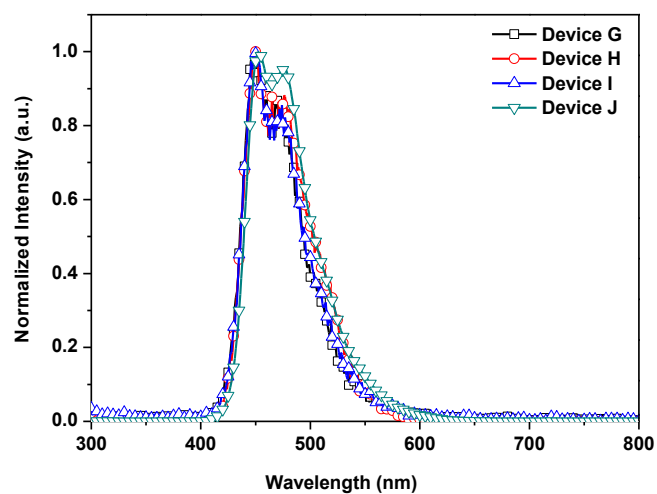**Fig. S9.** The electron-only device of OXD-7、tOXD-*m*TP、tpOXD-*m*TP.

Fig. S10. The power efficiency versus luminance for devices A-F.

Fig. S11. The power efficiency versus luminance for devices G-J.

Fig. S12. The EL spectra of devices A-F at 8 V.

Fig. S13. The EL spectra of devices G-J at 8 V.