Electronic Supplementary Information

Thermally cross-linkable thermally activated delayed fluorescence materials for efficient blue solution-processed organic light-emitting diodes

Kaiyong Sun, Xiangfei Xie, Yao Liu, Wei Jiang,*, Xinxin Ban, Bin Huang, and Yueming Sun*

School of Chemistry and Chemical Engineering, Southeast University, Nanjing, 210096, Jiangsu, P. R. China

*e-mail: 101011462@seu.edu.cn (W. Jiang); e-mail: sun@seu.edu.cn (Y. Sun).

Figure S1. TGA of P9 at a heating rate of 10 °C min\(^{-1}\).

Figure S2. (a) PL spectra of DV-CDBP in toluene at 77K and DV-MOC-DPS at 77K with 10 ms delay; (b) PL spectra of cross-linked DV-CDBP film at 77K.
Figure S3. Oxidation part of the CV curves of DV-CDBP and DV-MOC-DPS in dichloromethane.

Figure S4. Absorption spectra of P9 in the thin film and Oxidation part of the CV curve of P9 (inset) in dichloromethane.
**Figure S5.** (a) Current efficiency versus luminance for the devices. (b) Power efficiency versus luminance for the devices.

**Table S1.** Comparison of the devices with P6, P9 and P12 as emitting layers

<table>
<thead>
<tr>
<th>Emitter</th>
<th>$V_{on}^{a}$ (V)</th>
<th>$\lambda_{peak}^{b}$ (nm)</th>
<th>EQE$_{max}^{c}$ (%)</th>
<th>CE$_{max}^{d}$ (cd A$^{-1}$)</th>
<th>PE$_{max}^{e}$ (lm W$^{-1}$)</th>
<th>CIE $(x, y)^{f}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>P6</td>
<td>5.3</td>
<td>444</td>
<td>1.4</td>
<td>1.3</td>
<td>0.7</td>
<td>(0.12, 0.13)</td>
</tr>
<tr>
<td>P9</td>
<td>5.3</td>
<td>444</td>
<td>2.0</td>
<td>1.6</td>
<td>0.9</td>
<td>(0.12, 0.13)</td>
</tr>
<tr>
<td>P12</td>
<td>5.3</td>
<td>448</td>
<td>1.2</td>
<td>1.3</td>
<td>0.7</td>
<td>(0.12, 0.15)</td>
</tr>
</tbody>
</table>

$^{a}$The driving voltage at 1 cd m$^{-2}$. $^{b}$EL peak wavelength. $^{c}$Maximum external quantum efficiency. $^{d}$Maximum current efficiency. $^{e}$Maximum power efficiency. $^{f}$The Commission Internationale de L’Eclairage coordinates.