**Supplementary Material**

**Immensely Enhanced Color-Adjustable** **Up-conversion Fluorescence in Electron Donor-Acceptor Exciplex Chromophores Doped with Fluorescent Emitters**

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**Fig. S1.** (a) The up-conversion PL spectra of TAPC under 760 nm excitation at different powers. (b) The up-conversion PL spectra of 3TPYMB under 760 nm excitation at different powers. (c) The log-log plot of the integrated area of PL spectra versus the power intensity of input laser by using the data of (a). (d) The log-log plot of the integrated area of PL spectra versus the power intensity of input laser by using the data of (b).



**Fig. S2.** Room temperature PL decay curve of pure TTPA (a) and DCM (b).



**Fig.S3.** The PL spectra of TAPC and 3TPYMB doped with TTPA and DCM at various concentrations.



**Fig. S4.** Transient PL decay curve of TAPC:3TPYMB blend (1:1) at various temperatures.

Table S1. The PLQYs of TTPA- and DCM-doped TAPC:3TPYMB (1:1) blends with different doping concentrations.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ratio Dophant | 0 | 0.05% | 0.10% | 0.20% | 0.50% | 2% |
| TTPA | 7.40% | 11.39% | 19.28% | 23.41% | 28.04% | 98.65% |
| DCM | 7.40% | 7.61% | 11.19% | 12.28% | 17.22% | 20.86% |

Table S2. The PLQYs of TTPA- and DCM-doped 3TPYMB samples.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ratio  Dophant | 0.00% | 0.05% | 0.10% | 0.20% | 0.50% | 2% |
| TTPA | 4.01% | -- | 9.13% | 12.29% | 30.51% | 56.94% |
| DCM | 4.01% | 6.90% | 8.96% | 11.94% | 17.82% | 19.19% |

Table S3. The PLQYs of TTPA- and DCM-doped TAPC samples.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Ratio Dophant | 0.00% | 0.05% | 0.10% | 0.20% | 0.50% | 2% |
| TTPA | 6.45% | 10.21% | 11.04% | 9.41% | 11.47% | 18.88% |
| DCM | 6.45% | 4.43% | 3.99% | 3.36% | 3.00% | -- |