Supporting Information

Bromine-Substituted Triphenylamine Derivatives with Improved Hole-Mobility for Highly Efficient Green Phosphorescent OLEDs with Low Operating Voltage

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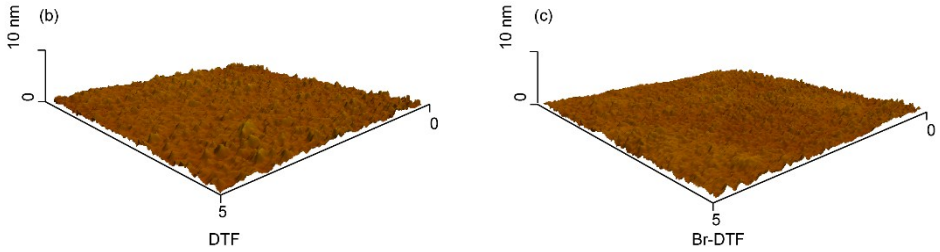

Figure S1. AFM morphologies of DTF and Br-DTF deposited on quartz substrate by vacuum evaporation.

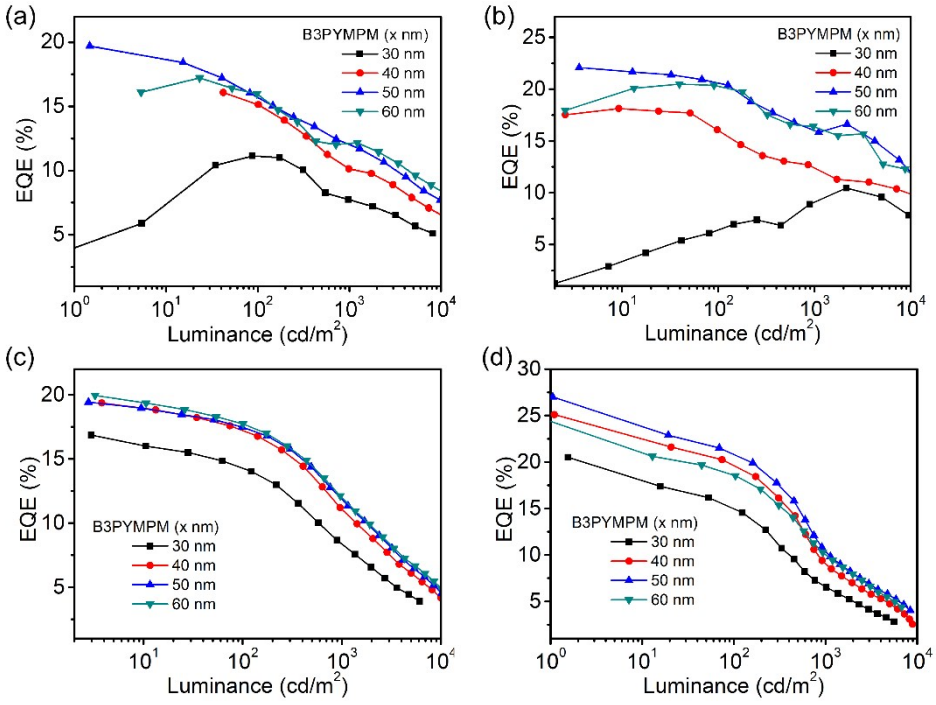

Figure S2. EQEs versus luminance characteristics of DQTPA-, Br-DQTPA-, DTF- and Br-DTF- based green phosphorescent devices without hole injection layer MoO_3. Device structures: ITO/ DQTPA(a) or Br-DQTPA(b) or DTF(c) or Br-DTF(d) (40 nm)/ CBP: 8% $Ir(ppy)_2acac$ (30 nm)/ B3PYMPM (x nm)/ LiF (1 nm)/Al (100 nm), x ranged from 30 nm to 60 nm.

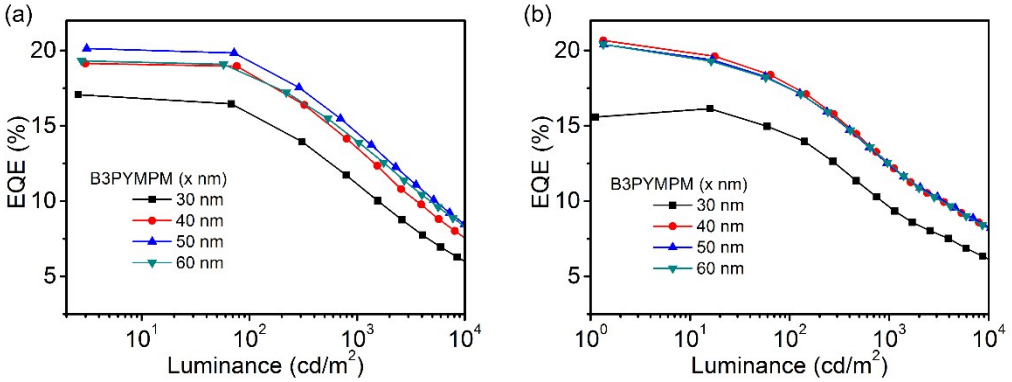

Figure S3. EQEs versus luminance characteristics of control devices using TAPC and TCTA as HTLs. Device structures: ITO/ TAPC(a) or TCTA(b) (40 nm)/ CBP: 8% $Ir(ppy)_2acac$ (30 nm)/ B3PYMPM (x nm)/ LiF (1 nm)/Al (100 nm), x ranged from 30 nm to 60 nm.

Table S1: Summary of the optimal green phosphorescent devices without MoO_3 in this work

Characters	DQTPA	Br-DQTPA	DTF	Br-DTF	TAPC	TCTA
Von @ 1cd/m^2	2.8	2.7	2.8	2.6	2.9	2.6
Max. EQE (%)	19.7	22.1	19.9	27.0	20.1	20.7
Max. CE (cd/A)	70.8	81.7	72.8	90.4	74.3	75.5
Max. PE (lm/W)	79.4	85.5	76.6	109.2	80.4	90.9