

Supporting Information

9,9-Diphenyl-thioxanthene Derivatives as Host Materials for Highly Efficient Blue Phosphorescent Organic Light-Emitting Diodes

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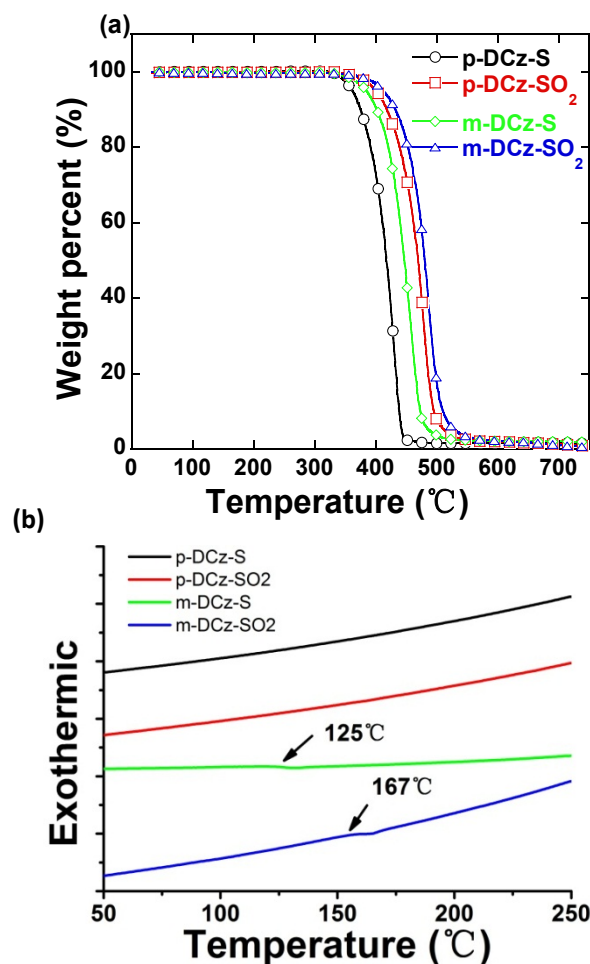


Figure S1. TGA (a) and DSC (b) curves of p-DCz-S, p-DCz-SO₂, m-DCz-S, and m-DCz-SO₂.

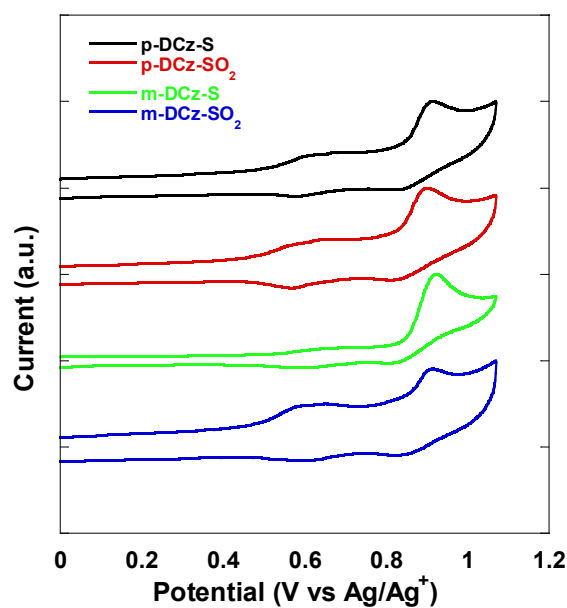


Figure S2. Cyclic voltammograms of p-DCz-S, p-DCz-SO₂, m-DCz-S, and m-DCz-SO₂ measured in CH₃CN/DCM (volume ratio: 1/4).

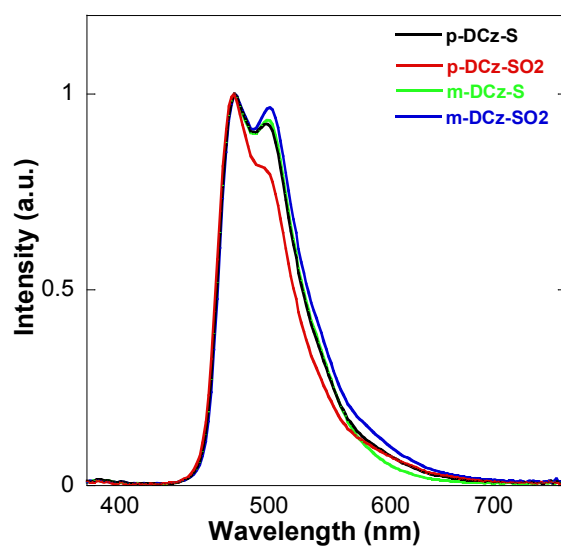


Figure S3. Electroluminescence spectra of the devices in a structure of ITO (95 nm)/ HATCN (5 nm)/ NPB (30 nm)/ TAPC (10 nm)/ Host: 12 wt% FIrpic (10 nm)/ TmPyPB (40 nm)/ LiF (1 nm)/ Al (90 nm) at 1 mA/cm². Host: p-DCz-S, p-DCz-SO₂, m-DCz-S, or m-DCz-SO₂.

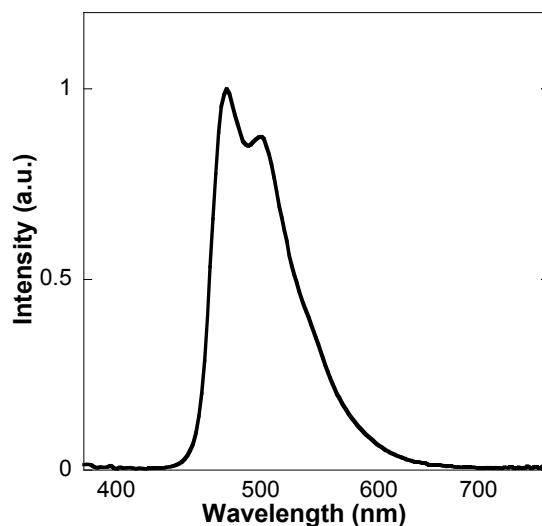


Figure S4. Electroluminescence spectrum of the device in a structure of ITO (95 nm)/ TAPC (40 nm)/ m-DCz-S: 12 wt% FIrpic (10 nm)/ TmPyPB (40 nm)/ LiF (1 nm)/ Al (90 nm) at 1 mA/cm².

Table S1. Summary of the performance data for the FIrpic-based PHOLEDs with different host materials.

Host	maximum efficiency		at 100 cd/m ²		at 1000 cd/m ²		Ref.
	CE (cd/A)	PE (lm/W)	CE (cd/A)	PE (lm/W)	CE (cd/A)	PE (lm/W)	
BCzTPM	--	--	44.5	45.5	26.4	21.8	1
TAPC/BTPS	--	64	46.1	50.1	36.6	33.8	2
CbBPCb	53.6	50.6	--	--	--	--	3
26DCzPPy	--	65.8	--	59.7	--	45.8	4
mCP/B3PYMPM	62.2	55.4	--	--	--	--	5
mCP/PO-T2T	--	66	--	--	--	54.1	6
m-DCz-S	65.2	69.7	50.1	47.1	37.7	29.6	This work

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