Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Mo-doped GZO film used as anode or cathode for highly efficient flexible blue, green and red phosphorescent organic light-emitting diodes

Results and discussion

(iii) Conventional blue, green, and red phosphorescent OLEDs with MGZO anode

Figure S1 shows the EL characteristics of conventional OLEDs with ITO and MGZO anodes on PET substrates. (i.e., Devices I and II).

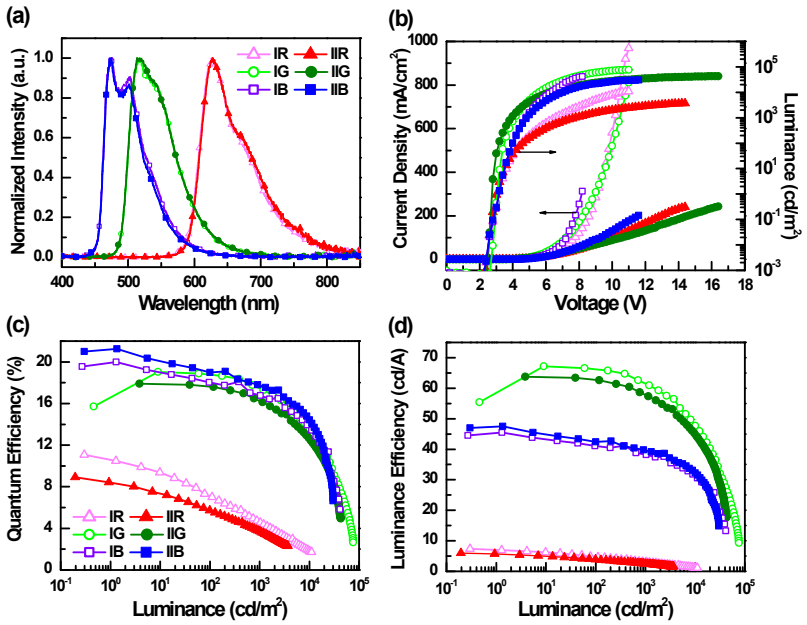

Fig. S1 (a) EL spectra of Devices IB, IG, IR, IIB, IIG, and IIR; (b) current density-voltage-luminance (*J*-*V*-*L*) curves; (c) external quantum efficiency vs. luminance; (d) luminance efficiency vs. luminance.

Table SI collects the EL characteristics of bottom-emitting OLEDs with different flexible anodes from selected articles published during 2007~2014. With the exception of green OLEDs with a graphene anode, our devices with MGZO anodes exhibited superior peak efficiencies and low turn-on voltages, indicating MGZO is not inferior to other previously-reported candidates.

Table SI. EL characteristics of flexible bottom-emitting OLEDs with different anodes from selected articles.

Year	Anode	Ph/Fl [a], emission color	dopant	EQE (%) [max.]	LE (cd/A) [max.]	V_{on} (V) [1 cd/m^2]	Ref.
2007	IZO	Ph, green	$Ir(ppy)_3$	13.7	—	~3.6	1
2010	GZO	Ph, blue	Firpic	16.6	—	4.2	2
2010	PEDOT:PSS	Ph, green	$Ir(ppy)_3$	—	16.2	4.5	3
2010	ITO/Ag/ITO	Fl, green	Alq_3	—	1.8	~3.0	4
2012	Graphene	Ph, green	$Ir(ppy)_3$	—	98.1	~2.7	5
2013	ZnS/Ag/MoO_3	Fl, green	Alq_3	—	~2.8	2.5	6
2014	Graphene/Ag/AZO	Fl, green	Alq_3	—	~1.5	> 5.0	7
2014	Ag nanowire	Ph, green	$Ir(ppy)_3$	—	43.8	3.6	8
2015	MGZO	Ph, blue	FIrpic	21.3	47.5	3.1	This work
		Ph, green	$Ir(ppy)_3$	17.9	63.7	2.7	
		Ph, red	$Ir(piq)_3$	8.9	6.0	3.0	

[a] Ph: Phosphorescent dopant; Fl: Fluorescent dopant.

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