

Efficient and chromaticity-stable flexible white organic light-emitting devices based on organic-inorganic hybrid color-conversion electrode

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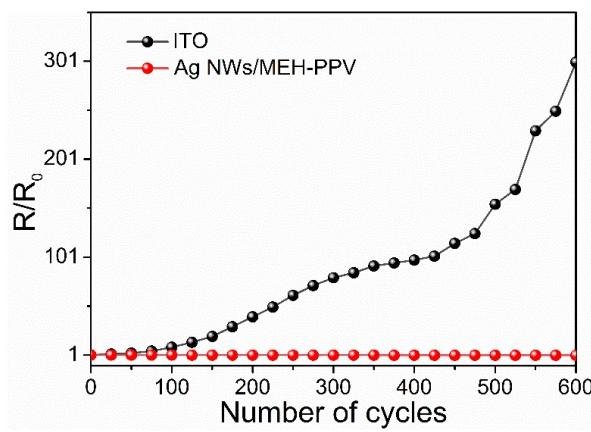


Figure S1. The bending tests of ITO on PET and Ag NWs/MEH-PPV film on PET hot-pressed at 40 MPa and 60 °C for 120 s

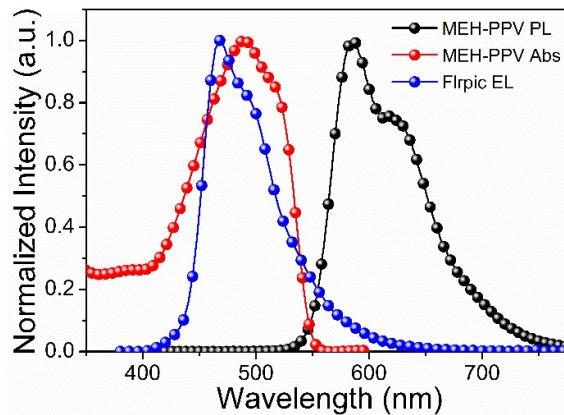


Figure S2. The absorption and PL spectra of the Ag NWs/MEH-PPV composite color conversion electrode.

Table S1. Comparison of results achieved in this study with that of previously reported CCL-based WOLEDs.

Electrode	Substrate	L_{\max} [cd m ⁻²]	CE_{\max} [cd A ⁻¹]	CIE [x,y]	Ref
Ag NWs/MEH-PPV	PET	11982.0	20.5	0.28,0.30	Our work
Al	Glass	-	17.7	0.34,0.35	1
ZnS/Ag	PET	>10000.0	-	0.44,0.46	2
ITO	Glass	-	21.0	0.31,0.39	3
ITO	Glass	2760.0	-	0.35,0.33	4
ITO	Glass	5007.0	22.9	0.19,0.39	5
ITO	Glass	-	15.7	0.30,0.36	6

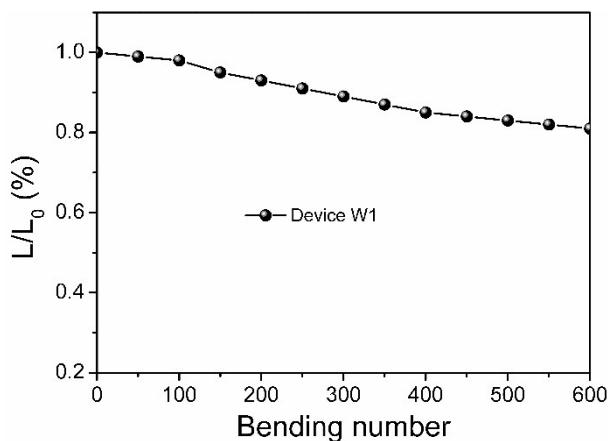


Figure S3. Dependence of luminance of Device W1 on bent number of cycles. L and L_0 corresponds to the original luminance before and after bending, respectively.

Supporting reference

1. S. Chen and H.-S. Kwok, *Org. Electron.*, 2011, **12**, 677-681.
2. T.-W. Koh, H. Cho, C. Yun and S. Yoo, *Org. Electron.*, 2012, **13**, 3145-3153.
3. H. Yu-Hsuan, *Opt. Express.*, 2012, **20**, 3005-3014.
4. S. S. Park, D. H. Kim, Y. P. Jeon and T. W. Kim, *J. Nanosci. Nanotechno.*, 2013, **13**, 7194-7197.
5. C. H. Chang, Y. J. Lo, J. L. Huang, Y. F. Huang, H. Y. Hung, Y. F. Jang and H. H. Chang, *Org. Electron.*, 2014, **15**, 1906-1912.
6. J. Lee, T. W. Koh, H. Cho, T. Schwab, J. H. Lee, S. Hofmann, J. I. Lee, S. Yoo, K. Leo and M. C. Gather, *J. Lumin.*, 2015, **162**, 180-184.