Flexible Thermally Activated Delayed Fluorescence (TADF) Organic Light Emitting Diodes (OLEDs) with multi-layer Graphene

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Abstract
During the last few decades, organic light-emitting devices (OLEDs) have attracted great attention because of their promising technology to fabricate high-resolution flexible displays and efficient light sources.[1] . Latterly , thermally activated delayed fluorescence (TADF) materials have been used to get high performance OLEDs due to their feature of harvesting both singlet and triplet excitons for 100% internal quantum efficiency.[2] In this study, TADF materials were designed and they used for the emissive layer while multi layered graphene were used as an anode on the flexible substrate, PET. Optimization studies are going on.

References

1 K.H. Kim, S. Lee, C.K. Moon, S.Y. Kim, Y.S. Park, J.H. Lee, J. Woo Lee, J. Huh, Y. You, J.J. Kim, Nat. Commun., 5 (2014), p. 4769
2 M. Tountas, Y. Topal, M. Kus, M. Ersöz, M. Fakis, P. Argitis, M. Vasilopoulou, Adv. Funct. Mater., 26 (2016), p. 2655Authors, Journal, Issue (Year) page

Figures

Figure 1: Picture of fabricated OLED using p-doped multi-layer graphene.