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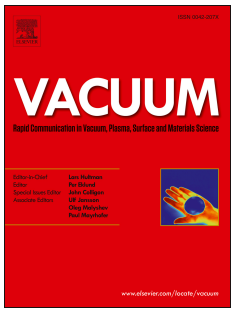

Solution-processed flexible blue organic light emitting diodes using graphene anode

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Solution-processed flexible blue organic light emitting diodes using graphene anode

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ABSTRACT:

In this paper, we demonstrate a simple solution-processed route to fabricate flexible blue organic light emitting diodes (OLEDs) with graphene as its bottom electrode on flexible polyethylene terephthalate (PET) substrate. The device structure consists of Al/Zinc oxide (ZnO)/poly(9,9-dioctylfluorene) (PFO) /poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate)(PEDOT:PSS)/Graphene/PET. The PFO as a blue emitter layer and the ZnO nanoparticles as electron transport layer were deposited by using spin-coating technique. The flexible blue OLEDs based on graphene anode exhibits a stable deep blue emission with a CIE color coordinates of (0.17, 0.17). This study suggests a simple fabrication approach to construct graphene electrode-based flexible blue organic light emitting diodes.

Keywords: Graphene; Zinc oxide; PFO; Solution process; Flexible device.

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