

Two new RBPV-DODM-PPV polymers used as active layer in PLEDs devices using ITO treated by UV-Ozone reactor with low cost

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Abstract – Two new active polymers were developed for assembly of PLEDs devices using ITO $\approx 9 \Omega/\square$ treated by UV-Ozone reactor with low cost. The architecture of PLEDs devices was assembled by /PEDOT:PSS/RBPV-DODM-PPV (R-55) or (R-73)/Al. The UV-Ozone reactor used an ignition tube (of high intensity discharge mercury vapor lamp), reflector, fans, wooden base and ballast. Sheet resistances of ITOs were compared before and after different treatment times revealing differences. Transmittance and SEM image of ITO films were obtained. In I x V curves including an untreated sample revealed typical curve of PLED devices only for ITO treated by 10 minutes.

Table 1: Devices assembled with RBPV-DODM-PPV-R73 with voltage operation, current and luminance results presented by PLED device.

Architecture of Device	Voltage Operation (V)	Current (mA)	Luminance (cd/m ²)
Polymer: RBPV-DODM-PPV-R73	10	0.5	0.2

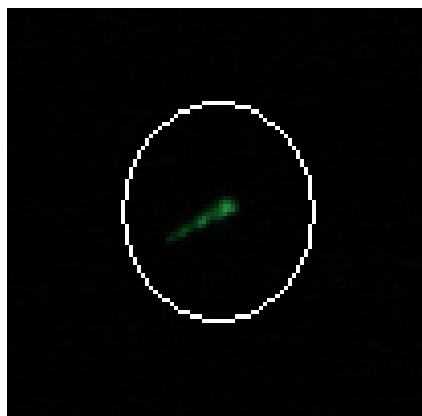


Figure 1: Image of device obtained using RBPV-DODM-PPV-R73 polymer and ITO treated by 10 minutes of UV-Ozone.

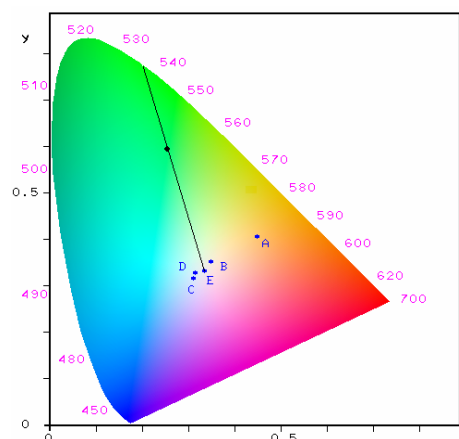


Figure 2: Chromaticity diagram obtained by PLED device presenting green-light shine using RBPV-DODM-PPV-R73 polymer and ITO treated by 10 minutes of UV-Ozone.

References

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