



# Opto-electrical properties of single layer flexible electroluminescence device with ruthenium complex

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## Abstract

In this work, a ruthenium hexafluorophosphate complex,  $[\text{Ru}(\text{bpy})_3](\text{PF}_6)_2$  in poly(methylmethacrylate) (PMMA) was employed to build a single layer light electrochemical cell on indium tin oxide polyester flexible substrate. The electroluminescence spectrum features a relatively broad band peaked near 625 nm, with CIE  $(x,y)$  color coordinates of (0.61,0.39). The driving voltage is only 3 V, and for the maximum electrical current of 10 mA the brightness reaches  $1 \text{ cd/m}^2$ . Regarding the useful application of the device, its opto-electrical behavior under mechanical strain was studied considering the central curvature. In these situations, both electrical characterization in DC mode and luminance were analyzed.

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