Supporting Information

for

Intramolecular Excimer Emission as Blue Light Source in Fluorescent Organic Light Emitting Diodes: A Promising Molecular Design

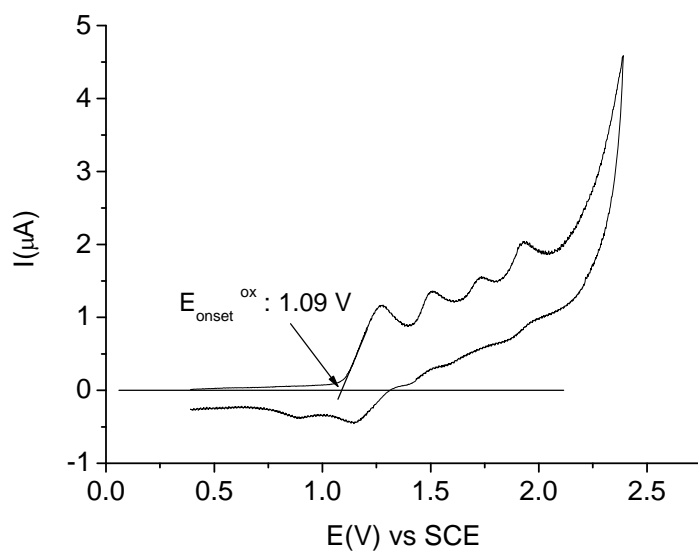Damien Thirion,[a] Maxime Romain,[a] Joëlle Rault-Berthelot,[a*] Cyril Poriel[a*]

a. Université de Rennes 1-UMR CNRS 6226 "Sciences Chimiques de Rennes"-MaCSE group. Bat 10C, Campus de Beaulieu - 35042 Rennes cedex France.

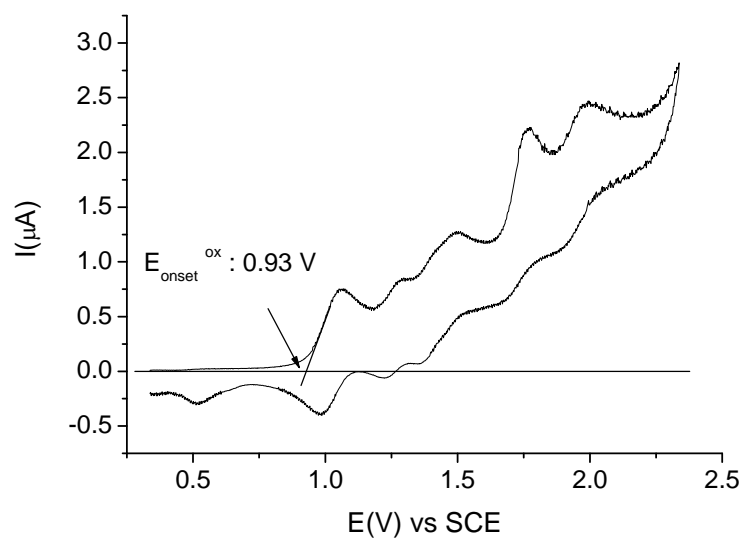*Email : cyril.poriel@univ-rennes1.fr, joelle.rault-berthelot@univ-rennes1.fr*
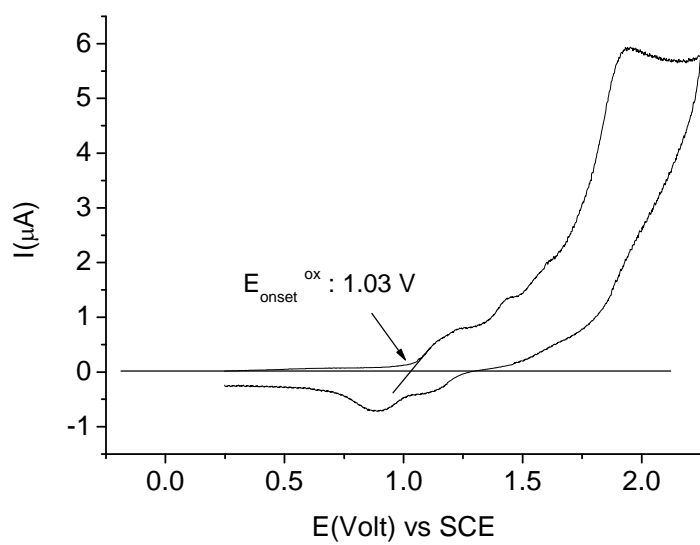
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Electrochemical studies

CV recorded in CH_2Cl_2-[NBu$_4$][PF$_6$] 0.2 M in the presence 2×10^{-3} M of **1**. Platinum working electrode (platinum disk diameter 1mm). Sweep-rate : 100 mV/s.

CV recorded in CH_2Cl_2-[NBu$_4$][PF$_6$] 0.2 M in the presence 2×10^{-3} M of **2**. Platinum working electrode (platinum disk diameter 1mm). Sweep-rate : 100 mV/s.

CV recorded in CH_2Cl_2-$[NBu_4][PF_6]$ 0.2 M in the presence 10^{-3} M of **3**. Platinum working electrode (platinum disk diameter 1mm). Sweep-rate : 100 mV/s.

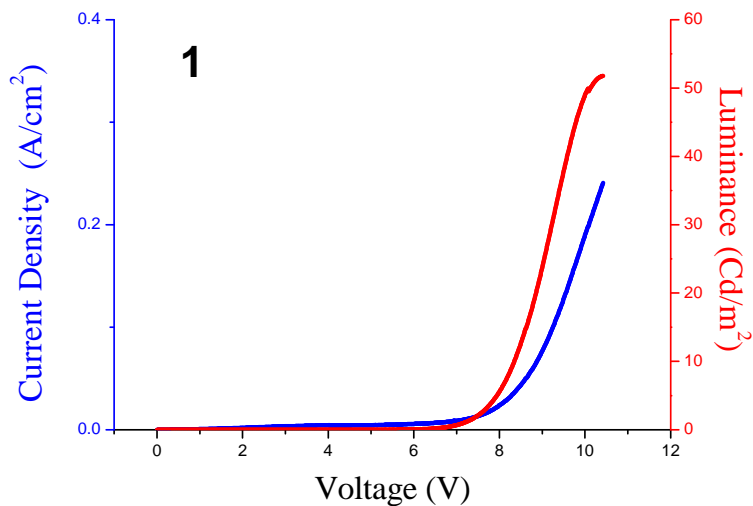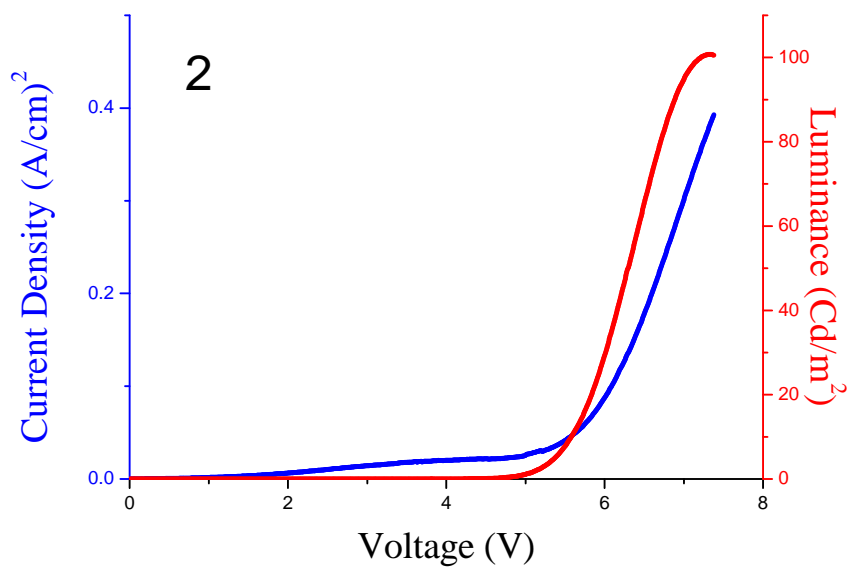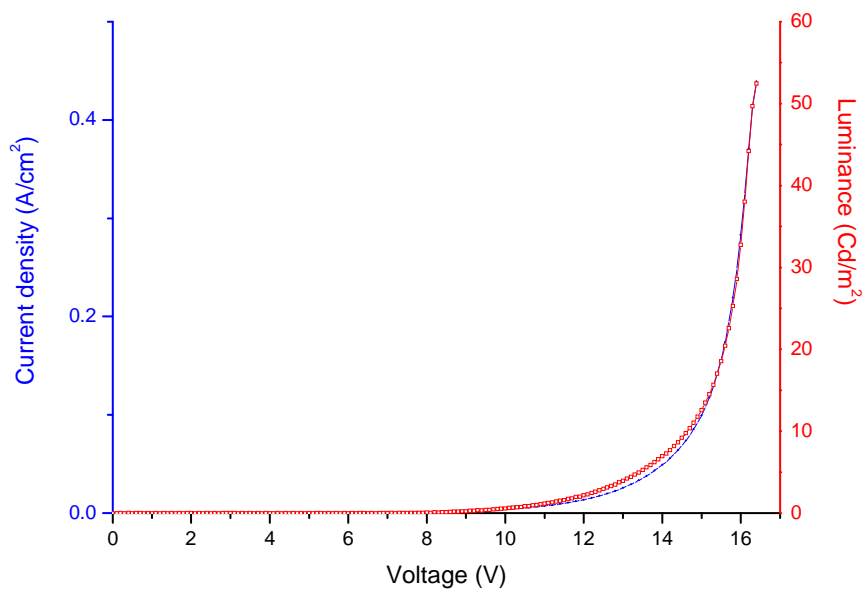# Organic Light Emitting Diodes

Current density-Voltage-Luminance characteristics of ITO/PEDOT/ **1** (50 nm) /Ca device. (Device A)

Current density-Voltage-Luminance characteristics of : ITO/PEDOT/ **2** (45 nm) /Ca device. (Device B)
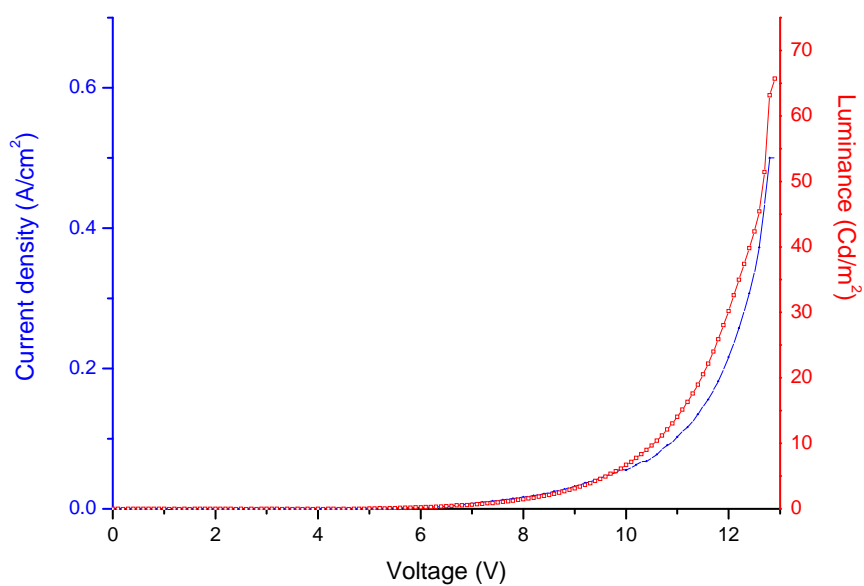
Current density-Voltage-Luminance characteristics of : ITO/PEDOT/ **3** (40 nm) /Ca device. (Device A)

Current density-Voltage-Luminance characteristics of : ITO/PEDOT/NPB/ **3** (40 nm) /Ca device (Device B)

Luminous and energetic efficiencies have been respectively calculated, from the I-V-L characteristics, as follow:

$$Re = (L \times 10^{-4}) / J$$

With

Re = Luminous efficiency in Cd.A^{-1}

L = Luminance in Cd.m^{-2}

The surface of the device is 0.1 cm^2
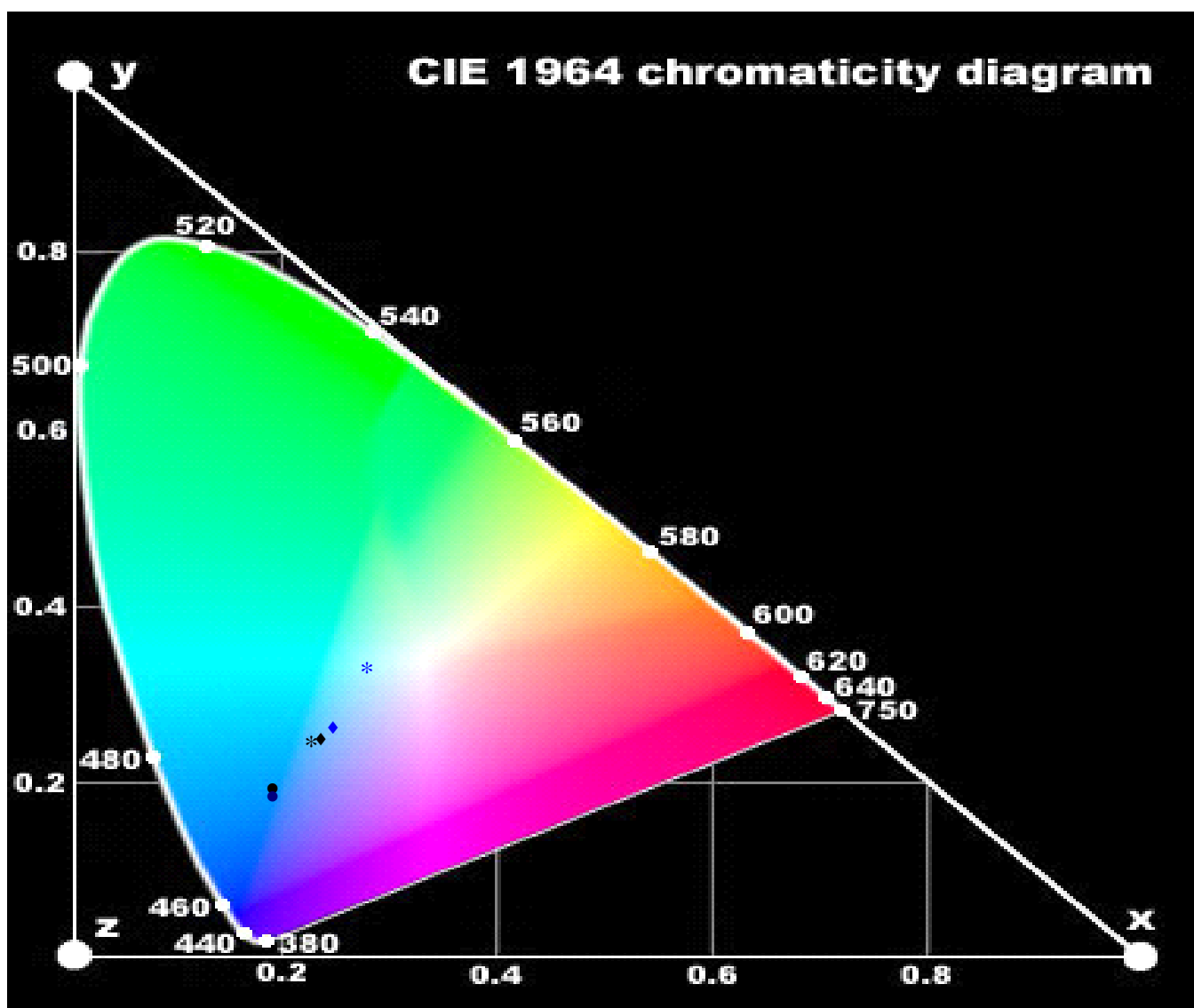
J = current density (A.cm^{-2})

$$Rw = (Re \times \pi) / V$$

With

Rw = Energetic efficiency in Lm.W^{-1}

Re = Luminous efficiency in Cd.A^{-1}

V = Voltage in V

1 as EML
♦: Device A (0.24;0.24)
♦: Device B (0.25; 0.27)

2 as EML
●: Device A (0.19;0.19)
●: Device B (0.19;0.18)

3 as EML
* Device A (0.23/0.24)
* Device B (0.27/0.34)

Copy of NMR spectra

Compound 3 (CD_2Cl_2)

solvent residual peak

9

solvent residual peak

f1 (ppm)