Supporting Information

for

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

Damien Thirion, Maxime Romain, Joëlle Rault-Berthelot, Cyril Poriel

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
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrochemical studies</td>
<td>3</td>
</tr>
<tr>
<td>Organic Light Emitting Diodes</td>
<td>5</td>
</tr>
<tr>
<td>Copy of NMR spectra</td>
<td>9</td>
</tr>
</tbody>
</table>
Electrochemical studies

CV recorded in CH₂Cl₂-[NBu₄][PF₆] 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 CH₂Cl₂-[NBu₄][PF₆] 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$_2$Cl$_2$-[NBu$_4$][PF$_6$] 0.2 M in the presence $10^{-3}$ M of 3. Platinum working electrode (platinum disk diameter 1 mm). 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:

\[ Re = \left( L \times 10^{-4} \right) / J \]

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\(^{-2}\))

\[ Rw = \left( Re \times \pi \right) / V \]

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$_2$Cl$_2$)