Supporting Information

Perylene-based, Bisterpyridine-Ru(II) Complexes: Synthesis, Electrochemical and Photovoltaic Properties

Hany El-Batal, a Juan Manríquez Rocha, b Perla F. Méndez, b Luis A. Godínez, b Kai Guo, a Xiaopeng Li, c Xiaocun Lu, a Chrys Wesdemiotis, a,c Charles N. Moorefield, d and George R. Newkome a,c,d

aDepartments of Polymer Science, cChemistry, and The dMaurice Morton Institute for Polymer Science, The University of Akron, Akron, OH, 44325-4717, USA, Fax:330-972-2368; Tel: 330-972-8595.
bCentro de Investigación y Desarrollo Tecnológico en Electroquímica,, Querétaro, 76700, México
E-mail: newkome@uakron.edu

Electronic Supplementary Information (ESI)

Table of Contents

1. Scheme S1 (Perylene Oxidation and Reduction) and Figure S1 (Perylene Numbering). S2
2. Figure S2. 1H NMR and 13C NMR spectra of 3 S3
3. Figure S3. 1H NMR and 13C NMR spectra of 5 S4
4. Figure S4. 1H NMR, COSY, 13C NMR and ESI-MS spectra of 8 S5, S6
5. Figure S5. 1H NMR, COSY, 13C NMR and MALDI-TOF-MS spectra of 9 S7, S8
6. Figure S6. 1H NMR, COSY, and 13C NMR spectra of 12 S9, S10
7. Figure S7. 1H NMR, COSY, 13C NMR and ESI-MS spectra of 13 S11, S12
Scheme S1. (A) One electron oxidation and (B) Two-electron reduction processes reported for a perylene group.$^1$

Figure S1 shows the structure of the commercially available perylene dye. It has twelve functionalizable carbon atoms. Substituents at carbons 3, 4, 9, and 10 are known as Peri-substituents, whereas 1, 6, 7, and 12 are known as the Bay-positions. Finally carbons 2, 5, 8, and 11 are known as the ortho-positions.
Figure S2. $^1$H NMR and $^{13}$C NMR spectra of 3
Figure S3. $^1$H NMR and $^{13}$C NMR spectra of 5
Figure S4. $^1$H NMR, $^{13}$C NMR, COSY, and ESI-MS spectra of 8.
Figure S5. \(^1\)H NMR, \(^{13}\)C NMR, COSY, and ESI-MS spectra of 9
2881.01

\[ [\text{M-PF}_6]^{3+} \]
Figure S6. $^1$H NMR, $^{13}$C NMR, and COSY spectra of 12
Figure S7. $^1$H NMR, $^{13}$C NMR, COSY, and ESI-MS spectra of 13
519.70

741.28
References: