Electrochemistry and Electrogendated Chemiluminescence of Twisted Anthracene-Functionalized Bimesitylenes

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Supporting Information

Figure S1. (a) Oxidation CV of 0.5 mM AB1 in 3:1 Bz: MeCN at various scan rates (b) Oxidation peak current versus the square root of the scan rate ($v^{1/2}$) (c) Reduction CV of 0.5 mM
**AB1** in 3:1 Bz: MeCN at various scan rates (d) Reduction peak current versus the square root of the scan rate ($v^{1/2}$)

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**Figure S2.** (a) Oxidation CV of 0.5 mM **AB3** in 3:1 Bz: MeCN at various scan rates (b) Oxidation peak current versus the square root of the scan rate ($v^{1/2}$) (c) Reduction CV of 0.5 mM **AB3** in 3:1 Bz: MeCN at various scan rates (d) Reduction peak current versus the square root of the scan rate ($v^{1/2}$)
**Figure S3.** Experimental (solid line) and simulated (dot-dashed line) cyclic voltammograms of 0.5 mM AB3 oxidation with scan rate from 50 mV/s to 10 V/s. Simulation mechanism is four, one electron oxidation and corrected for resistance (2470 Ω) and capacitance (700 nF): $E^{\circ}_{1,\text{ox}} = 1.05$ V, $E^{\circ}_{2,\text{ox}} = 1.09$ V, $E^{\circ}_{3,\text{ox}} = 1.10$ V, $E^{\circ}_{4,\text{ox}} = 1.13$ V vs. SCE, $k > 10^4$ cm/s, $\alpha = 0.5$.

**Figure S4.** Experimental (solid line) and simulated (dot-dashed line) cyclic voltammograms of
0.5 mM **AB3** reduction with scan rate from 50 mV/s to 10 V/s. Simulation mechanism is four, one electron reduction and corrected for resistance (2470 Ω) and capacitance (700 nF): $E^{\circ}_{1,\text{red}} = -1.735$ V, $E^{\circ}_{2,\text{red}} = -1.755$ V, $E^{\circ}_{3,\text{red}} = -1.785$ V, $E^{\circ}_{4,\text{red}} = -1.8$ V vs. SCE, $k^{\circ} > 10^4$ cm/s, $\alpha = 0.5$.

**Figure S5.** Cyclic voltammogram of 0.5 mM **AB3** in 3:1 benzene: MeCN with 0.1 M TBAPF$_6$ before (red line) and after ECL experiment (after 1$^{\text{st}}$ ECL experiment with 3 min integration: blue line and after 2$^{\text{nd}}$ ECL experiment with 3 min integration: green line). WE: Pt disk, CE: Pt coil, RE: Ag wire as a QRE. Scan rate was 0.5 V/s.