Supporting Information BFD_SI.docx

The Effect of Large Electrolyte Anions on the Sequential Oxidations of Bis(fulvalene)diiron Attached to Glassy Carbon by an Ethynyl Linkage

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(CV = cyclic voltammogram; SWV = square wave voltammogram; DPV = differential pulse voltammogram)

Table S1. Values of ΔE_{pk} (= $E_{fwd} - E_{rev}$) for surface-bound αE-BFD on glassy carbon as a function of square wave frequency. The electrolyte medium was dichloromethane containing either 0.1 M $[NBu_4][PF_6]$ or 0.05 M $[NBu_4][B(C_6F_5)_4]$.

Electrolyte Anion	SW frequency (Hz)	ΔE_{pk} (mV) $[E\text{-}BFD]^{0/+}$ couple	ΔE_{pk} (mV) $[E\text{-}BFD]^{+/2+}$ couple
$[PF_6]^-$	20	26	28
$[PF_6]^-$	40	28	30
$[PF_6]^-$	60	32	32
$[B(C_6F_5)_4]^-$	40	48	44
$[B(C_6F_5)_4]^-$	60	52	50
$[B(C_6F_5)_4]^-$	150	52	50
$[B(C_6F_5)_4]^-$	300	54	32

Figure S1. Cyclic voltammogram of 1.0 mM α-EBFD in 0.10 M CH_2Cl_2/$[NBu_4][B(C_6F_5)_4]$, 0. 2 V s^{-1}, gce.

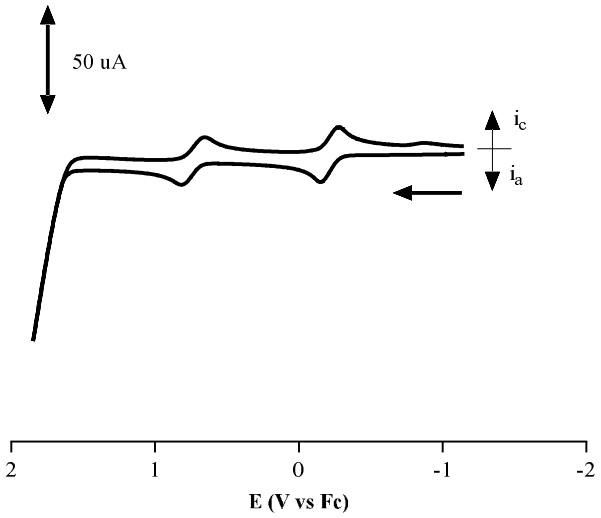

Figure S2. Differential pulse voltammogram (2 mV s^{-1}) of 2 mm glassy carbon electrode that had been modified by five CV scans at 400 mV s^{-1} through the second oxidation wave of a 2 mM solution of βE-BFD in dichloromethane/0.05 M $[Bu_4N][B(C_6F_5)_4]$. The DPV scan was recorded in 0.10 M $[Bu_4N][PF_6]$.

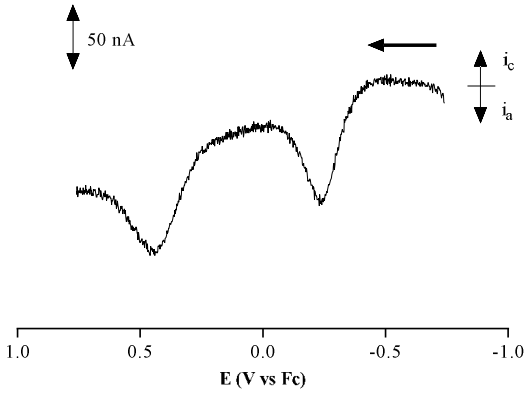

Figure S3. Square-wave voltammogram (60 Hz) of 2 mm glassy carbon electrode that had been modified by five CV scans at 400 mV s^{-1} through the second oxidation wave of a 2 mM solution of βE-BFD in dichloromethane/0.05 M [Bu_4N][$B(C_6F_5)_4$]. The SWV scan was recorded in 0.10 M [Bu_4N][PF_6] .

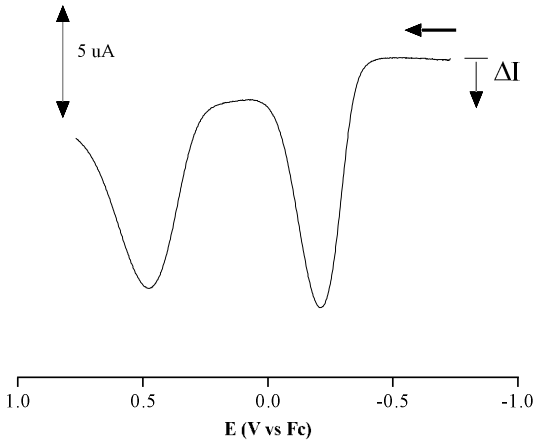

Figure S4. Square-wave voltammogram (60 Hz) of 2 mm glassy carbon electrode that had been modified by five CV scans at 400 mV s^{-1} through the second oxidation wave of a 2 mM solution of βE-BFD in dichloromethane/0.05 M [Bu_4N][$B(C_6F_5)_4$]. The SWV scan was recorded in 0.10 M [Bu_4N][$B(C_6F_5)_4$] .

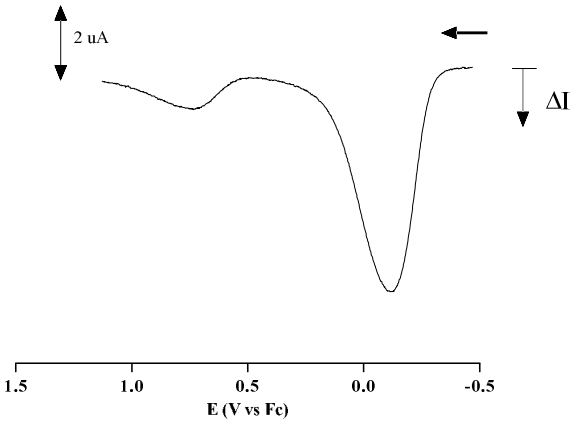

Figure S5. Differential pulse voltammogram (2 mV s^{-1}) of 2 mm glassy carbon electrode that had been modified by five CV scans at 200 mV s^{-1} through the second oxidation wave of a 2 mM solution of βE-BFD in dichloromethane/0.05 M $[Bu_4N][B(C_6F_5)_4]$. The DPV scan was recorded in 0.10 M $[Bu_4N][B(C_6F_5)_4]$.