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Supporting Information

Photoinduced Energy Transfer in Carbazole-BODIPY Dyads

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Figure S1. ¹H NMR spectrum of Compound (CB1) in CDCl_{3.}



Figure S2. ¹H NMR spectrum of Compound (CB2) in CDCl_{3.}



Figure S3. ¹H NMR spectrum of Compound (CB3) in CDCl₃.



Figure S4. ¹³C NMR spectrum of Compound (CB1) in CDCl₃.



Figure S5. ¹³C NMR spectrum of Compound (CB2) in CDCl₃.



Figure S6. ¹³C NMR spectrum of Compound (CB3) in CDCl₃.

a: LGB-CB1,0001.1B3[c] 18 Jul 2018 16:12 Cal: 18-07-2018-RP 18 Jul 2018 16:06 nadzu Biotech Axima Performance 2.9.3.20110624: Mode Reflectron_HiRes, Power: 85, Blanked, P.Ext. @ 2000 (bin 92) 6Int. 115 mV[sum= 5730 mV] Profiles 1-50 Smooth Gauss 6



Figure S7.MALDI-MS spectrum of Compound (CB1).





Figure S8. MALDI-MS spectrum of Compound (CB2).

ta: LGB-CB3,0001.1C1[c] 18 Jul 2018 16:08 Cal: 18-07-2018-RP 18 Jul 2018 16:06 imadzu Biotech Axima Performance 2.9.3.20110624: Mode Reflectron_HiRes, Power: 90, Blanked, P.Ext. @ 2500 (bin 103) %Int. 62 mV[sum= 3099 mV] Profiles 1-50 Smooth Gauss 6



Figure S9. MALDI-MS spectrum of Compound (CB3).



Figure S10.Differential pulse voltammograms of oxidation of the indicated compounds in CH_2Cl_2 containing 0.1 M (n-C₄H₉)₄NClO₄. The concentra-tions of the dyads were held at 1 mM; scan rate = 100 mVs⁻¹.



Figure11. Theoretical and Experimental UV-Visible spectra of CB1, CB2 and CB3 in dichloromethane solvent.



Figure S12.Overlay of the absorption (——) and excitation (——) spectra of the dyads.



Figure S12. Fluorescence decay curves of C0, B0, CB1, CB2, and CB3 ($\lambda_{ex} = 300$ and 485 nm) in Toluene, DCM, and acetonitrile solvents.



Figure S13.Femtosecond transient absorption spectra of B0 excited at 502nm in toluene.



Figure S14. Femtosecond transient absorption spectra of B0 excited at 340nm in toluene.



Figure S15. Femtosecond transient absorption spectra of C0 excited at 339nm in Toluene.

Table S1. Comparison of the experimental	optical	properties	with th	he theoretical	data by	B3LYP	in
dichloromethane.							

Dye	^a lmax	^b λ _{max}	^c f	^d E (eV)	% of Molecular Orbital Composition
CB1	503	436	0.6193	2.843	HOMO->LUMO (98%)
CB2	502	435	0.6324	2.849	HOMO->LUMO (98%)
CB3	503	436	0.6353	2.844	HOMO->LUMO (98%)

^aRecorded absorbance in nm, ^b theoretical absorbance in nm, ^c Oscillation strength, and ^d excited state energy in eV.