Supporting Information

Photoactivatable BODIPYs Designed to Monitor the Dynamics of Supramolecular Nanocarriers

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Table S1. Crystallographic Data for **1**.

Empirical Formula	$C_{18}H_{18}N_2O_3$
Formula Weight	310.34
Crystal System	Monoclinic
Lattice Parameters:	
a (Å)	8.2502(3)
b (Å)	17.5045(6)
c (Å)	11.1549(4)
β (°)	105.933(1)
V (Å^3)	1549.05(10)
Space Group	$P2_1/n$ (# 14)
Z Value	4
ρ_{calc} (g cm^{-3})	1.331
μ (Mo Kα) (mm^{-1})	0.092
T (K)	296
$2\Theta_{max}$ (°)	54.0
No. Obs. ($I > 2\sigma(I)$)	3046
No. Parameters	212
Goodness of Fit	1.043
Max. Shift in Cycle	0.001
*Residuals**: R1; wR2	0.0392; 0.1063
Absorption Correction, Max/min	Multi-scan 0.9819/0.9556
Largest Peak in Final Diff. Map (e$^-$ Å^{-3})	0.201

* $R = \Sigma_{hkl}(||F_{obs}|-|F_{calc}||)/\Sigma_{hkl}|F_{obs}|$; $R_w = [\Sigma_{hkl}w(|F_{obs}|-|F_{calc}|)^2/\Sigma_{hkl}wF_{obs}^2]^{1/2}$, $w = 1/\sigma^2(F_{obs})$; $GOF = [\Sigma_{hkl}w(|F_{obs}|-|F_{calc}|)^2/(n_{data} - n_{vari})]^{1/2}$.

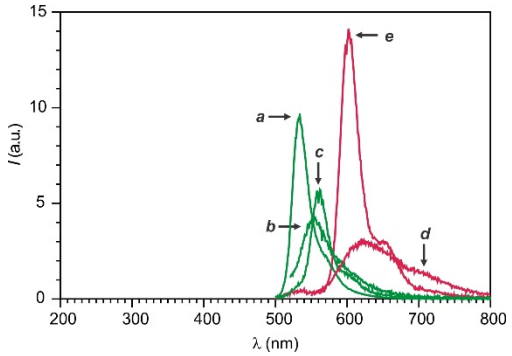

Figure S1. Emission spectra (10 μM, MeCN, 25 °C, λ_{Ex} for **2**, **3**, **6** and **12** = 480 nm, λ_{Ex} for **5** = 540 nm) of **12** (***a***), **2** (***b***), **3** (***c***), **5** (***d***) and **6** (***e***).

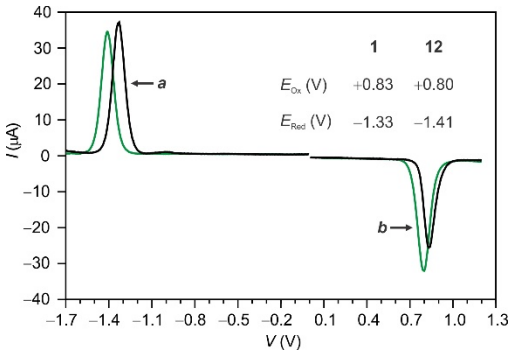

Figure S2. Differential pulse voltammograms [1 mM, MeCN, Bu_4NPF_6 (0.1 M), V *vs.* Ag/AgCl, 50 mV s^{-1}, 50 mV] of **1** (***a***) and **12** (***b***).

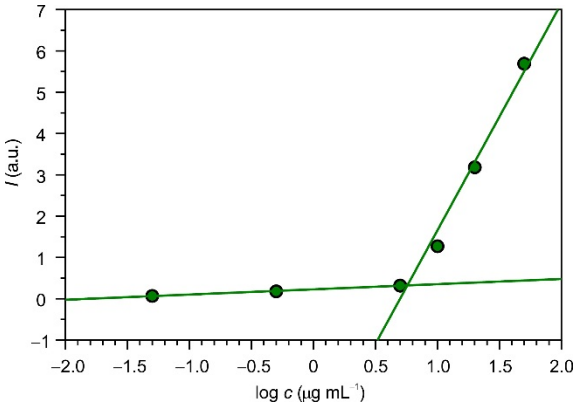

Figure S3. Plot of the emission intensity of **12** (5 μg mL^{-1}, λ_{Ex} = 470 nm, λ_{Em} = 536 nm) against the concentration of **13** in PBS at 25 °C.

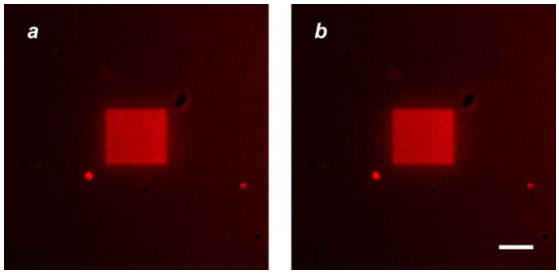

Figure S4. Fluorescence images (scale bar = 100 μm) of a PBMA film, doped with **3** (0.25% w/w), recorded with a λ_{Ex} of 594 nm and a detection window of 610–700 nm 5 (***a***) and 10 min (***b***) after activation of a rectangular region at a λ_{Ac} of 405 nm.

Web Enhanced Object

Video S1. Sequence of 43 fluorescence images of an alginate hydrogel, doped with nanoparticles of **13** (250 μg mL^{-1}) containing **3** (2.5 μg mL^{-1}), recorded with a λ_{Ex} of 594 nm, a detection window of 610–700 nm and a delay between frames of 15 s after activation of a rectangular region at a λ_{Ac} of 405 nm for 10 s.

Web Enhanced Object

Video S2. Sequence of 15 fluorescence images of an alginate hydrogel, doped with nanoparticles of **13** (250 μg mL^{-1}) containing **12** (2.5 μg mL^{-1}), recorded with a λ_{Ex} of 514 nm, a detection window of 530–650 nm and a delay between frames of 15 s after bleaching of a rectangular region at 405 nm for 60 s.

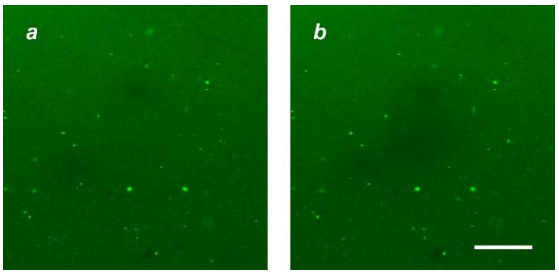

Figure S5. Fluorescence images (scale bar = 50 μm) of an alginate hydrogel, doped with nanoparticles of **13** (250 μg mL^{-1}) containing **12** (2.5 μg mL^{-1}), recorded with a λ_{Ex} of 514 nm and a detection window of 530–650 nm before (***a***) and after (***b***) bleaching of a rectangular region at 405 nm for 10 s.

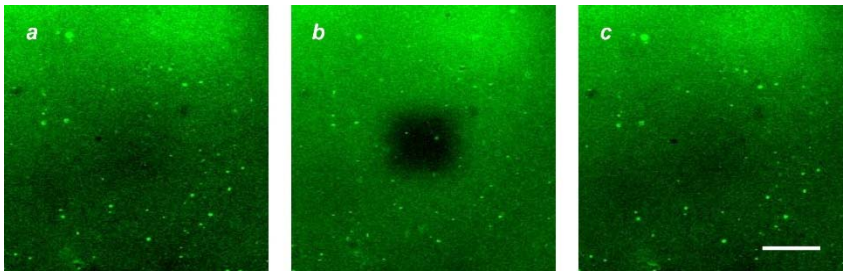

Figure S6. Fluorescence images (scale bar = 50 μm) of an alginate hydrogel, doped with nanoparticles of **13** (250 μg mL^{-1}) containing **12** (2.5 μg mL^{-1}), recorded with a λ_{Ex} of 514 nm and a detection window of 530–650 nm before (***a***) and after (***b***) bleaching of a rectangular region at 405 nm for 60 s and 210 s after bleaching (***c***).

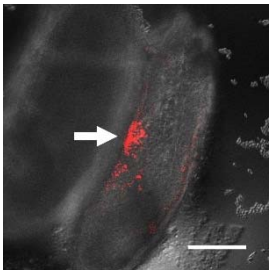

Figure S7. Overlaid fluorescence and transmittance images (scale bar = 100 μm) of two adjacent *Drosophila Melanogaster* embryos, one of which was microinjected with a solution of nanoparticles of **13** (5 mg mL^{-1}) containing **3** (50 μg mL^{-1}) in Dulbecco's PBS, recorded with a λ_{Ex} of 594 nm and a detection window of 610–700 nm 2250 s after activation of the indicated area at a λ_{Ac} of 405 nm for 10 s.

Web Enhanced Object

Video S3. Sequence of 15 overlaid fluorescence and transmittance images of two adjacent *Drosophila Melanogaster* embryos, one of which was microinjected with a solution of nanoparticles of **13** (5 mg mL^{-1}) containing **3** (50 μg mL^{-1}) in Dulbecco's PBS, recorded with a λ_{Ex} of 594 nm, a detection window of 610–700 nm and a delay between frames of 150 s after activation of a portion of the sample at a λ_{Ac} of 405 nm for 10 s.