Electronic Supporting Information for

Synthesis and Properties of Fluorescent Dyes Conjugated to Hyperbranched Polyglycerols.

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Photophysical Experiments

Photobleaching of Fluorescein and Fluorescein Derivatives 10 and 11. Stock solutions of fluorescein, **10**, and **11** were used to prepare three 1 μM solutions in 100 mM pH 8 sodium phosphate buffer. Each solution was transferred to a 200 μL cuvette and sealed using a rubber stopper. An O_2 stream was bubbled through each cuvette for 20 minutes. The cuvettes were exposed to 470 nm light from a narrow wavelength LED source and their fluorescence was measured periodically. Results are shown in figure 1 of the main text.

Quantum Yield Measurements. Quantum yields of compounds **8**, **10**, **11**, **15**, **16**, and **19** were determined using the reference method taking a minimum of 5 data points for each sample.[1] For fluorescein containing molecules **8**, **10**, and **11**, fluorescein was used as a reference assuming a quantum yield of 0.95. For perylene containing compounds **15**, **16**, and **19**, cresol violet was used as a reference assuming a quantum yield of 0.56.

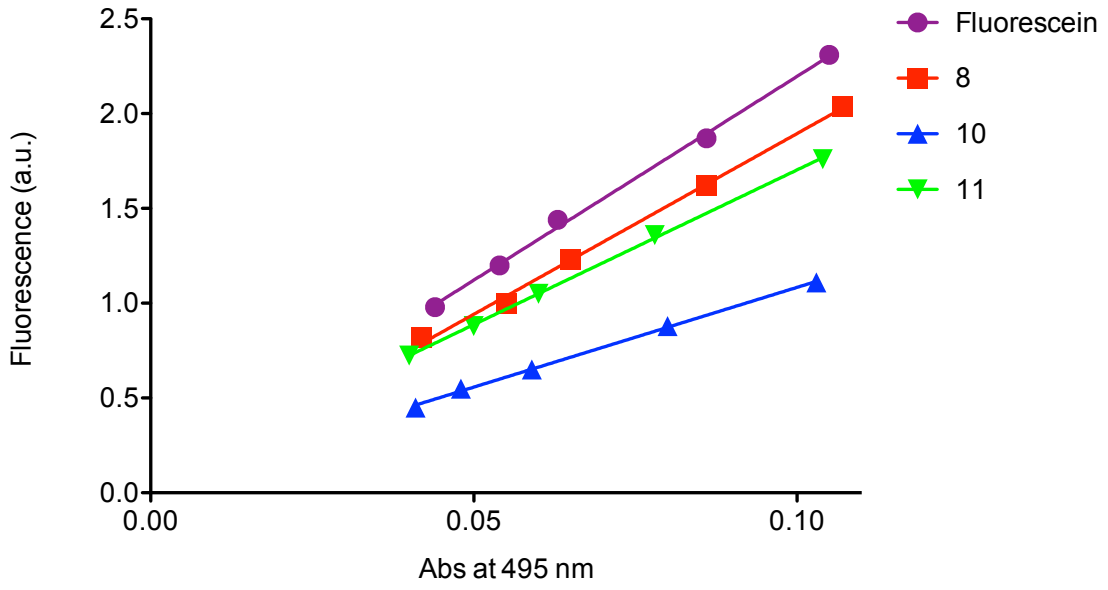

Figure S1. Fluorescence of fluorescein derivatives in water and DMF solution used to determine quantum yield.

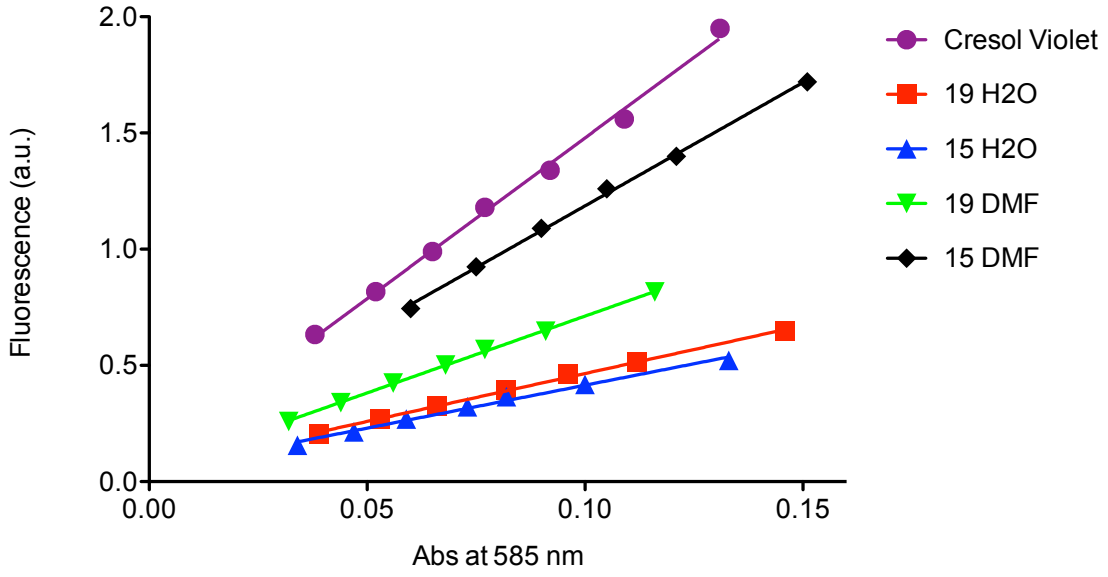

Figure S2. Fluorescence of perylene HPG derivatives in water and DMF solution used to determine quantum yield.

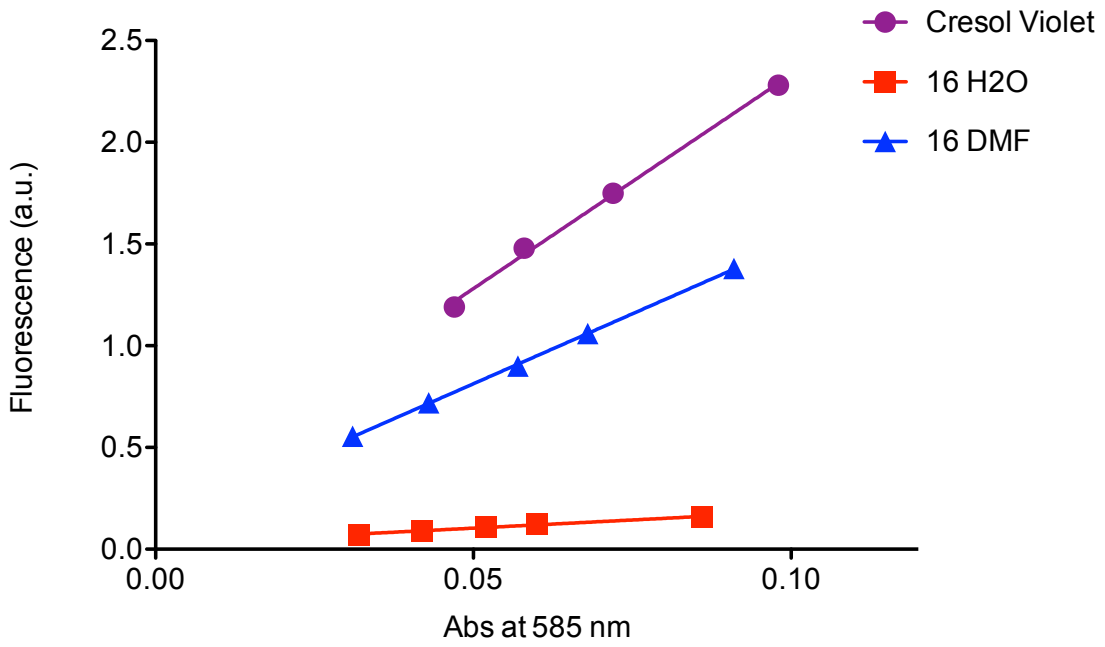

Figure S2. Fluorescence of perylene PEG derivatives in water and DMF solution used to determine quantum yield.

Titration Study of Fluorescein Derivatives

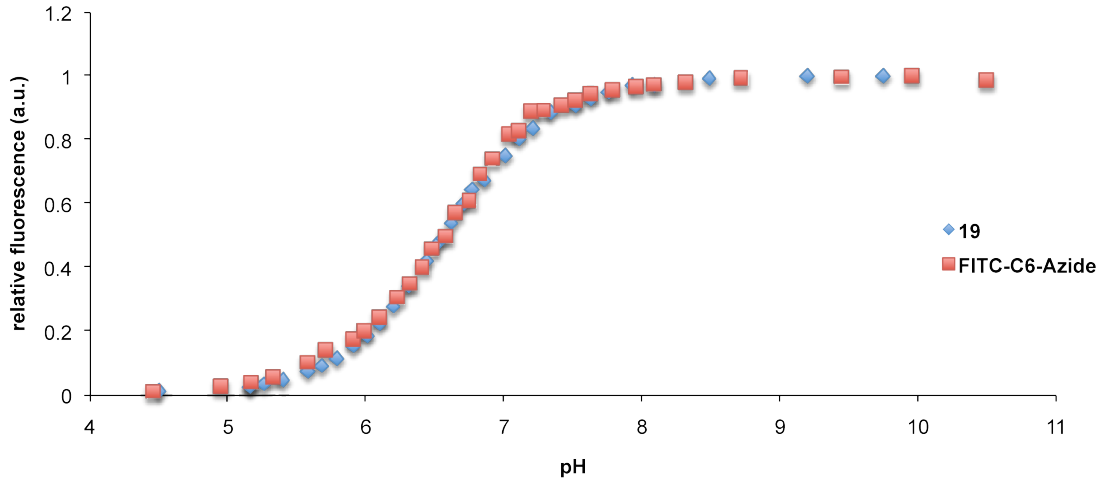

Figure S4. Titration of a 1 µM solution of FITC-C6-Azide or fluorescein HPG conjugate **19** with a 100 mM sodium phosphate solution and following the relative fluorescence and the pH of the solution.

References

1. J. N. Demas, G. A. Crosby, *J. Phys. Chem.*, **1971**, *75*, 991-1024.